A NATIONAL TRANSPORT STRATEGY FRAMEWORK FOR JAMAICA: IMPLICATIONS FOR FINANCING THE SECTOR

(A COMPARATIVE STUDY WITH THE UNITED STATES OF AMERICA)

A Research Paper submitted to Dr. Catherine L. Ross in accordance with the requirement by the School of City and Regional Planning Program

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EXECUTIVE SUMMARY

Transportation forms the backbone to a country's economy; consequently development of this sector is critical to a country's overall progress. Jamaica, a developing country in the Caribbean, has over the years undertaken to enhance the different modes of transportation (land, sea and air) as a strategy for boosting its global competitiveness. In 2007 the Government of Jamaica (GoJ), through the then Ministry of Transport and Works developed the first National Transport Policy (NTP) that was aimed at streamlining the numerous development efforts that were being undertaken within the sector. The role of the Policy above all, was to outline a vision for the sector, one that would contextualize its activities within a common framework. A subsequent step to the promulgation of the NTP should have been the development of a National Transport Strategy (NTS); the provisions of this Strategy were to have been informed by that of the NTP and were to have created a roadmap which outlined how the Policy objectives were to be achieved within the context of the established visions. To date, however, a NTS was never prepared and the steps that have been taken towards implementing the NTP have been piecemeal in the absence of a set of prioritized strategies that should have been articulated in the strategy. In light of the effects of the global economic crisis, the availability of funding to the transport sector has become increasingly limited. As a consequence, it is even more critical to prioritize and expend the available funds in the most sustainable manner.

It is believed that a NTS could provide the needed prioritized framework for the sector. As such this research is aimed at assessing Jamaica's transport sector; the existing NTP; and the steps that have been and are currently being utilized by the GoJ to fund the implementation of transport projects and programs. It incorporates a comparative analysis approach using the United States of America (U.S.) as the comparative case. The process examines the transport planning process used by the U.S. government through the U.S. Department of Transportation, and in particular its experience with the strategic planning process. The comparisons were undertaken within the context of the differences that exist between the two jurisdictions, and therefore it is recognized that the lessons garnered from the U.S. experience might not be adoptable on a wholesale basis but should rather be tailored to the context of Jamaica's administrative, legislative, institutional, political, social, economic and natural environments.

The literature shows that strategic planning is an important and useful tool for policy implementation in the transport sector, which is vital to a country's economic development. It also points to the need to undertake transport planning from a comprehensive inter-modal perspective. Transportation is essential to all other development sectors; as such the planning and development of this sector should also be undertaken within a multi-sectorial context. This approach will provide an opportunity for looking beyond

the traditional sources of funds for the transport sector, to discovering and developing newer more innovative strategies.

The table below shows a comparative analysis of the transport sector in both Jamaica and the U.S.

General Comparative Analysis Summary between Jamaica and the U.S.

Broad Areas	Provisions	Jamaica	United States
Institutional Structure	Overarching central government transport entity	✓	✓
	Specialized entities (by modes) at the central government level	✓	✓
	Specialized entities (by modes) at the regional/ local government level	p	✓
	Regional transport planning body	×	✓
	National level Transport Board	×	✓
	An institution dedicated to transport research and development	×	✓
Legislative Structure	Legislative provisions the guides development and operations of various aspects of the country's transport sector (all modes)	✓	✓
	Legislative and Policy register	✓	✓
Administrative Structures	National Transport Policy - Integrated Strategic Issues: - Increased private sector involvement - Improved sector coordination - User pay for transportation costs - Subsidies for social and economic benefit - Policy awareness and participation in policy development - Integration across modes - Increase access to transport and services in rural areas - Integrate transport policy, planning appraisal and integration across modes - Adequate regulations developed and enforced to meet international environmental and safety standards - Promote energy conservation and environmental protection	✓	✓
	National Transport Strategy - Integrated Strategic Issues: - Safety (across modes) - State of Good Repair - Economic Competitiveness - Livable Communities - Environmental Sustainability	×	✓
Transport Modes	Land Transport (Road and Infrastructure, Transit)	✓	✓
	Railway	✓	✓
	Air Transport	✓	✓
	Maritime Transport	✓	✓
	Pipelines	×	✓

✓ - included in NTP (may need revision), and to be addressed in the NTS

× - Not included in NTP should be addressed in revision

p - Partially

Source: Author, 2013

While some similarities were revealed in the experiences of both countries were also vast differences; prominent among these is the fact that the U.S. has a more developed transport planning and administrative system and therefore provides lessons from which Jamaica may draw in embarking on a strategic transport planning process. There are areas within the transport sector that both countries have addressed in their policy and/or strategy documents, however while addressed\,m the extent to which it has been dealt with also allowed for areas to be identified where improvements might be necessary.

In addition to making recommendations towards preparing a NTS, the NTP which will form the basis of this strategic framework, should be revised with a view to making it current and hence address the pertinent factors that could affect the state of the country's economic competitiveness in the global arena. Illustrated in the following table are a number of important areas that were highlighted in the study, some of which were addressed in the NTP, others though addressed were not adequately dealt with, and in some instances the areas were not addressed at all. Since efforts to develop a NTS for Jamaica will be pivotal on the provisions of the NTP, this provides an ideal opportunity for the Policy to be revised while steps are being take to develop the Strategy.

Summary Areas for revision/ inclusion in the NTP and NTS

SUBJECT	NTP	NTS
Data requirements	×	✓
The adoption of technology	×	✓
Reducing the impact of the transport sector on the natural environment	p	✓
Prioritization	×	✓
Internalizing externalities in the transport sector	×	✓
Transportation – land use relationship	p	✓
Safety within the transport sector	✓	✓
Catering to needs of the transportation disadvantaged	p	✓
Aligning the NTP (and NTS) with MTWH processes	×	✓
Enhancing the capacity of the MTWH staff and enhancing customer service	×	✓
Revision period for the policy	✓	✓

✓ - included in NTP (may need revision), and to be addressed in the NTS

× - Not included in NTP should be addressed in revision

p - Partially

Source: Author, 2013

While it is important to develop a strategy for the transport sector, is cannot be seen as a panacea neither can it be seen as a one-off process. The commitment of the relevant stakeholders is vital to the effectiveness of the strategic planning procedure. The Strategy should ideally be integrated into the existing administrative, planning and budgeting process within the Ministry of Transport, Works and Housing which is expected to have oversight of this planning process. This research essentially provides a framework that might be used in the process of developing a NTS for Jamaica.

ACKNOWLEDGEMENT

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I am thankful to members of staff at the Ministry of Transport, Works and Housing in Jamaica, who were very helpful in assisting in whatever way they could to facilitate my research, and in providing feedback and information that helped to strengthen this study. In particular, I would like to recognize: Dr. Janine Dawkins, Mr. Barrington Mills, Mr. George Nicholson, Ms. Dawn Smith, Mrs. Deidrie Hudson-Sinclair, Ms. Valerie Simpson, Ms. Paula Brown, Ms. Shernette Sampson and Ms. Lorette Scarborough from the Ministry. To my other professional and academic colleagues who were always willing to hear my thoughts and provide feedback, a heartfelt gratitude.

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LIST OF ACRONYMS

AAJ	-	Airports Authority of Jamaica
ADB	-	Asian Development Bank
AEROTEL	-	Aeronautical Telecommunications Limited
ARIP	-	Airport Reform and Improvement Project
CAA	-	Civil Aviation Authority
CMI	-	Caribbean Maritime Institute
EDA	-	U.S. Economic Development Agency
EIA	-	Environmental Impact Assessments
FAA	-	Federal Aviation Administration
FHWA	-	Federal Highway Administration
FMCSA	-	Federal Motor Carrier Safety Administration
FRA	-	Federal Railway Administration
FS-DOT	-	Florida State Department of Transportation
FTA	-	Federal Transit Admiration
FY	-	Financial Year
Georgia Tech	-	Georgia Institute of Technology
GoJ	-	Government of Jamaica
HDI	-	Human Development Index
ICAO	-	International Civil Aviation Organization
ICT	-	Information and Communications Technology
IMF	-	International Monetary Fund
IPC	-	Indian Planning Commission
ITS	-	Intelligent Transportation Systems
JIS	-	Jamaica Information Service
JUTC1	-	Jamaica Urban Transit Company
JUTC2	-	Jamaica Ultimate Tire Company
KMR	-	Kingston Metropolitan Region
LRSTP	-	Long Range State Transportation Plan
LRTP	-	Long Range Transportation Plan
MA	-	Maritime Administration
MAJ	-	Maritime Authority of Jamaica
MDA	-	Ministries, Departments and Agencies
MoFP	-	Ministry of Finance and Planning (Jamaica)

MoJ	-	Ministry of Justice
MPO	-	Metropolitan Planning Organization
MTP	-	Metropolitan Transportation Plan
MTWH	-	Ministry of Transport, Works and Housing
NADO	-	National Association of Development Organizations
NEPA	-	National Environment and Planning Agency (Jamaica)
NIP	-	National Industrial Policy
NPC	-	National Planning Council
NROCC	-	National Road Operating and Constructing Company
NRSC	-	National Road Safety Council
NSTPRSC	-	National Surface Transportation Policy and Revenue Study Commission
NTL	-	National Transport Library
NTP	-	National Transport Policy
NTS	-	National Transport Strategy
NWA	-	National Works Agency
OCG	-	Office of the Contractor General
OFM	-	Office of Financial Management
OST	-	Office of the Secretary of Transportation
OTP	-	Office of Transportation Policy
PBMAA	-	Public Bodies Management and Accountability Act
PHMSA	-	Pipeline and Hazardous materials Safety Administration
PIOJ	-	Planning Institute of Jamaica
PPP	-	Public-Private Partnerships
PS	-	Permanent Secretary
PSMP	-	Public Sector Modernization Program
RITA	-	Research and Innovation Technology Administration
RMF	-	Road Maintenance Fund
RSU	-	Road Safety Unit
SCT	-	Special Consumption Tax
SLSDC	-	Saint Lawrence Seaway Development Corporation
STATIN	-	Statistical Institute of Jamaica
STB	-	Surface Transportation Board
STIP	-	Statewide Transportation Improvement Program
SWOT	-	Strength, Weaknesses, Opportunities and Strength
TA	-	Transport Authority
TDD	-	Transportation Development District

TID	-	Transportation Improvement District
TEF	-	Tourism Enhancement Funds
TIA	-	Traffic Impact Assessments
TIF	-	Tax Increment Financing District
TIP	-	Transportation Improvement Program
TRB	-	Transportation Research Board
U.S. DOT	-	U.S. Department of Transportation
U.S.	-	United States of America
UDC	-	Urban Development Corporation
UNDP	-	United Nations Development Program
UN-ECLAC	-	United Nations-Economic Commission for Latin America and the Caribbean
UPWP	-	Unified Planning Work Program
VMT	-	Vehicle Miles Travelled

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CHAPTER 1:

INTRODUCTION AND PROBLEM DEFINITION

CHAPTER 1: INTRODUCTION AND PROBLEM DEFINITION

1.1 Overview

The Government of Jamaica (GoJ) has embarked on a mission to implement its national development plan (Jamaica Vision 2030) which is aimed at seeing Jamaica achieving development status by the year 2030, and becoming "*the place to live, work, do business and raise families*". The nation's overall development is pivotal on its ability to provide adequate transport services and infrastructure to support the country's development goals. This effort must reflect cognizance of the socio-economic, political and technological realities that impact the country. It is within this context that I am undertaking an assessment of the endeavors within Jamaica's transport sector to streamline its planning efforts by acknowledging the need to optimize use of the sector's limited resources. This research will seek to outline a strategic planning framework for Jamaica's transport sector; it will include an assessment of the existing financing environment with a view to identifying the implications that a strategic plan for the transport sector may have for identifying and obtaining the requisite financial resources.

The transport sector is an important component of national development in any country. One of its most fundamental attributes is its ability to move persons, goods and services between spatial locations at the local, regional and international levels. "The efficient management of the sector can provide tremendous economic and social gains to a country through indirect and direct employment as well as induced development which ultimately leads to wealth creation and growth" *(Planning Institute of Jamaica, 2009)*.

This research incorporates a comparative approach which examines strategic planning within the United States' transport sector, also noting some of the strategies that have been used by the United States to finance its transport sector. The anticipated output is a framework that could assist in streamlining the strategic planning process on which the Ministry of Transport, Works and Housing (MTWH) of Jamaica is getting ready to embark. It will also address the importance of updating the existing National Transport Policy (NTP) which will aid in identifying prioritized sector strategies and also the type of data that will be required to inform the planning process.

1.2 Contextual Framework

In 2007 the NTP was promulgated by the Houses of Parliament, making it Jamaica's first national policy for the transport sector. The policy was developed in-keeping with nine themes: *competition; cost recovery; economic development; consultation; and private sector participation; environmental protection; equal access to transport; energy efficiency;* and *land use*. Since 2007, the Ministry with responsibility for the transport sector has taken an ad hoc approach towards implementing the NTP in the

absence of a strategic policy implementation plan. It is believed that such a strategy is important not only to the general implementation of the policy, but particularly to identifying and establishing appropriate mechanisms for funding the different areas of the transport sector; as such the absence of a strategy represents the *"area of disconnect*[1]*"* within the sector (see *Figure 1.1*).

Since the NTP represents the first comprehensive transport policy initiative for Jamaica, there are still lessons being gleaned from this policy development process. These will inform the next logical step, which is to develop and implement a National Transport Strategy (NTS). This Strategy could be instrumental in aligning the sector with the Countries overall development strategies.

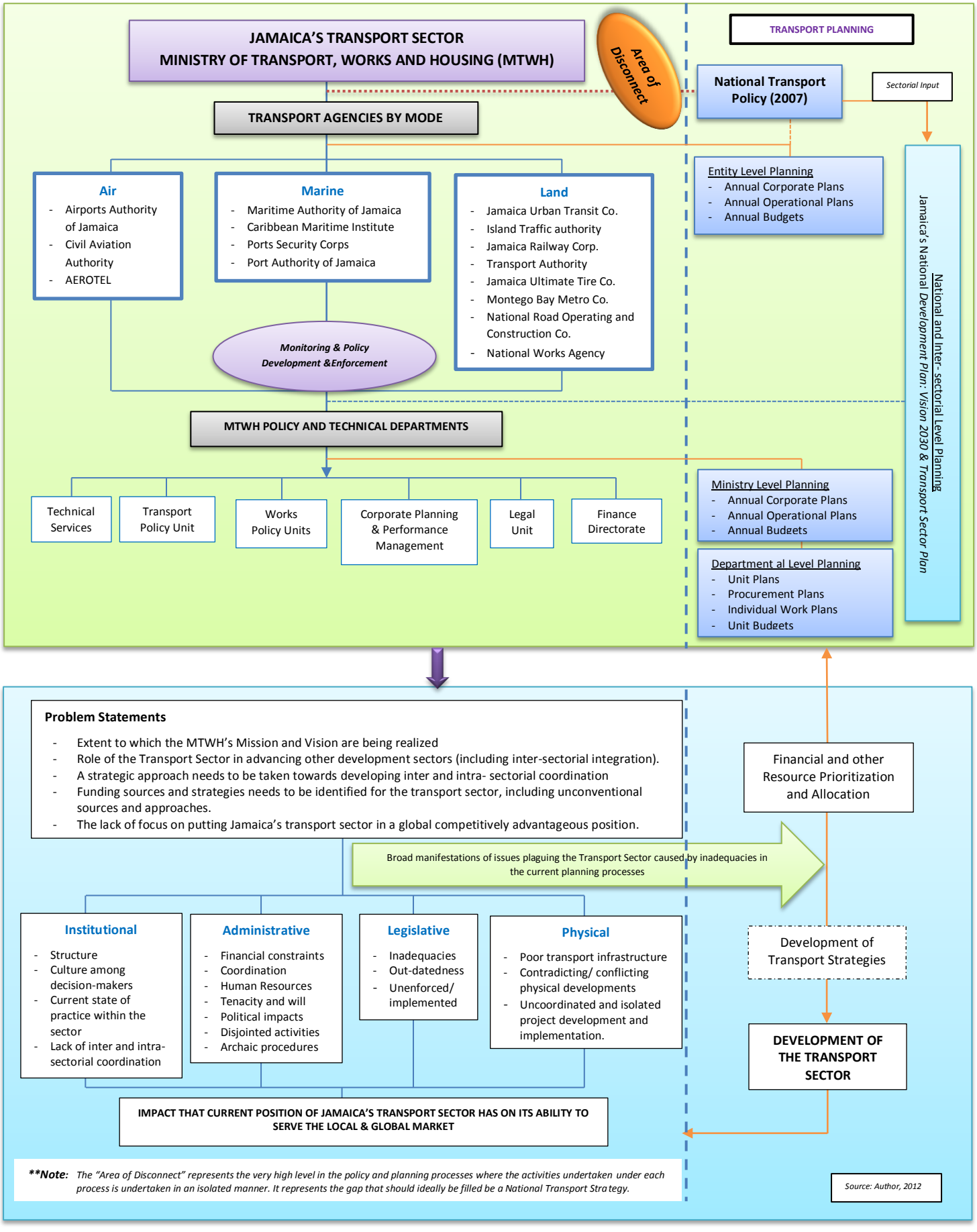
Transport infrastructure development in Jamaica is affected by a lack of the necessary financial resources for fueling the process. It is therefore imperative that the limited resources that are available for developing the sector be invested in the most efficient and effective manner, one which will result in the cumulative development of the transport and other sectors. The NTS could provide a framework within which transport projects and programs that compete for the same limited resources could be assessed with a view to determining the best options for resource allocation, a key step in addressing the existing *"area of disconnect"* that is identified in *Figure 1*. The mechanisms of transport infrastructure financing and investment have changed tremendously over the years, it is therefore essential for the strategy to be crafted in a manner which serves the global market, and in so doing, optimizing the sector's position to seize regional and international development and investment opportunities.

Jamaica's transport sector is positioned at the center of the country's development landscape. The MTWH and the nineteen agencies that comes under its purview, therefore has a role in ensuring that the transport sector meets its mandate for advancing the nation's economy. The integrated approach towards developing the sector will require the streamlining of the plans, policies and programs in the air, marine and land transport sub-sectors, within the context of a common framework. It is therefore appropriate for the Ministry to play the coordinating role in ensuring that this requisite framework is in place to channel development of the transport sector towards attaining its mission of a "*Sustainable, competitive, safe, accessible and environmentally friendly transport network providing world class air land rail and marine facilities contributing to a vibrant import, export and transshipment trade for Jamaica and the world*" (Ministry of Transport and Works,[2] 2007).

[1] The "Area of Disconnect" represents the very high level in the policy and planning processes where the activities undertaken under each process is undertaken in an isolated manner. It represents the gap that should ideally be filled be a National Transport Strategy

[2] Then Ministry of Transport and Works (MTW), the structure was changed after a change in political administration consequent on the 2011 elections to become the Ministry of Transport, Works and Housing

Figure 1.1: Contextual Framework of the Research



As indicated by the Asian Development Bank (1995) in relation to Asia, the same can be stated for Jamaica: *"the economic growth in recent years has led to large increases in the demand for transport and has created the need to ensure that [the] existing strategy addresses the future requirements for transport infrastructure to facilitate economic growth and social development over the long term."* The current transport sector programs, projects, and strategies should be coordinated and integrated in an effort to maximize the benefits of the implementation process. A multimodal approach will be vital to the development of a NTS.

The Ministry's current corporate planning process requires that entities submit the details of their plans and programs for each financial year. In the Public Sector Modernization Program (PSMP), which was undertaken by the Government of Jamaica (GoJ) in 2003, there was tremendous emphasis placed on the preparation of corporate plans as a means of improving governance and resource allocation within government ministries. The report that was prepared from the process indicated that a "*Corporate Plan Template has been agreed to by all ministries, setting out ministries' goals, objectives, policies, programs, outputs, indicators and targets... and crucially, the Plan includes the resources that each ministry will allocate in support of these goals and programs… The new corporate planning process will ensure that the public sector's programs are in line with national goals and objectives" (Public Sector Reform Unit, 2003)*. The corporate plan while it is clear on defining the goals of the Ministry and its agencies, and providing an indication of how they intend to operate over the subject financial year, does not have the capacity to streamline the programs and projects in a strategic manner. Therefore the development of a sector strategy must be informed by cross sectorial analysis, a procedure that is beyond the scope of the corporate plan.

In addition to the areas that will be specifically covered in respect to Jamaica, this research will also include an assessment of a parallel process of policy development for the United States' transport sector. This will form the basis of this comparative study that is aimed at defining an appropriate approach towards developing a NTS for Jamaica.

1.3 The rationale for the study and what it aims to achieve

The research is intended to take a holistic view of the transport sector with respect to the need for ensuring that there is integration among the sector strategies that will emanate from the planning process. Taking an ad hoc approach towards planning and development in the transport sector have not yielded the most optimum results, it has been manifested in a series of often disjointed activities within the sector. The GoJ has in the past formulated the NTP to guide the development of the transport sector; however, it has not followed through on the development of a strategic framework to guide implementation of this

Policy. In addition, the government has alluded to the lack of financial resources required to propel the sector to a position where it can stimulate activities within the country's other important growth sectors.

In December 2011, there was a change in the island's political administration; this has expectedly been accompanied by a change in the philosophies and priorities for the transport sector. It is understood that different political parties have different policies as depicted by the variations in their political manifestos. In light of the resource constraints that is experienced by a developing country like Jamaica, there should be attempts to put the necessary standard operating procedures in place that will serve to guide the administration of the sector, even where the political baton change hands. The NTS has vast potential to facilitate the much needed continuity; consequently, the transport strategy must ideally have the buy-in of the government of the day as well as the opposition, with the understanding that there will be differences in the views of the political directorates. Putting in place a strategic plan for the transport sector may not solve all its problems; it is however, a useful tool that can serve to enhance the efficient use of the very limited resources that is available to the sector. As opposed to that of the political directorate, it is the role of the planner to provide an objective view on the matter; this will be the central aim of the strategic planning framework.

A strategic plan can create a roadmap for the sector. Currently, the transport sector is not deemed one of the critical sectors if one was to judge based on the level of investment that had been earmarked for over the past decades. This is owed mainly to the fact that the transport sector is often viewed in isolation; hence the relationships between the transport and other sectors are often not readily observed and factored into many decision-making processes. Increased development of the transport sector will result in growth in other sectors; such efforts can be enhanced if a deliberate integrated approach is taken towards planning and development, as indicated by the Planning Institute of Jamaica (PIOJ) in 2009:

> *"The returns to investment in physical infrastructure tend to be high in countries at Jamaica's income level, especially considering the relative underinvestment in physical infrastructure in recent decades. These higher growth rates eventually increase the size of the economy and the levels of funding available for other services such as health and education over the medium and long term. High-quality infrastructure contributes to social and environmental goals, by improving access to public services, reducing negative environmental impacts and supporting the sustainable use of natural resources."*

Likewise, the availability of funding is very often an issue that is blamed for the lag in the development of the transport sector. This study is being undertaken on the premise that the development of a strategic plan for the transport sector could have a tremendously positive impact on the growth of the transport

sector, and by extension many other sectors. A strategic planning framework could enhance the prospect for the transport sector to obtain more funding through from conventional and unconventional sources.

The main premise of this research is that the strategic planning process can play a critical role in improving the transport sector. It can help to identify and leverage funding outside of the traditional sources. An efficient strategic planning process can be data-intensive and consequently requires that appropriate and timely data be collected. The data collection process is crucial, although it can be very costly and time consuming. It is therefore important to identify the type of data that will be required to enhance the planning process as well as determine how existing processes might be leveraged to collect the required data. Although the lack of data may impact the planning process, taking steps to address this will be important in positioning the sector where it ideally ought to be.

This research will provide a framework for the strategic planning process based on which the data that are required might be determined. The strategic planning process should be very inclusive, and as such must be undertaken by the Ministry with the input of a wide range of stakeholders. Essentially, the research will not only address the absence of a "road map" and the impact it could have on funding the sector; it will also provide recommendations towards putting the roadmap in place and highlighting some of the implications this could have for the transport and other sectors in Jamaica.

1.4 Statement of the problem/ issue

Jamaica's transport sector has an important role to play in the country's development. It is for this reason that adequate attention and resources must be dedicated to this sector. In Jamaica this had not been the case for many years, the country still struggles to keep pace with the infrastructure development that is required to compete on a global scale.

The challenges that plague the transport sector are not confined to one mode, although their nature and intensity varies across modes. The marine and air transport subsectors, by virtue of their associated activities are forced to recognize the global trends that are relevant to them. As it relates to the more localized subsectors (which include land transport and the attendant infrastructure) there remains a challenge in keeping up with the requirements occasioned by continued growth activities in other sectors. For example, the changes in development and land use development trends have resulted in an increase in the demand for different types of transport services and infrastructure.

The activities of the sector are primarily driven by the prevailing agenda of the current political administration. Very often there is no established scientific basis on which on which investments in the

transport sector are prioritized in light of the scarcity of financial resources. Although the then Ministry of Transport and Works in Jamaica developed a NTP in 2007, the provisions of this policy have not been adequately incorporated into the Ministry's planning procedures, despite efforts to do so. This too has been affected by the absence of an approved transport strategic plan for making the transport sector more competitive. The willingness on the part of the political directorate to support and adopt the development and implementation of a NTS would significantly contribute to making the sector more efficient and effective.

Resource availability is a critical factor, primarily because its scarcity as well as the existing competition from other sectors for that which is available. Hence a planning framework is required to adequately inform and guide the transport planning process, particularly as it relates to the allocation of resources and identifying and exploring other sources of funding. In light of the demands placed by various sectors on the available government funding, the issue of availability is a growing concern. Consequently, it is required that the decision-makers within the transport sector seek innovative ways of financing its plans and programs. Being able to fund the transport sector is important, however, it is equally critical to ensure that these funds are used as effectively as possible. This can only be achieved where there is a clear understanding of the current state of the transport sector, the government's vision for the sector and how it is anticipated that the sector can move forward in an efficient and transparent manner.

1.5 Purpose and objectives of the overall research

This research will assess the current state of the transport planning sector in Jamaica at the national level. It will evaluate the administrative, institutional and legislative environments along with the physical manifestations resulting from the past and current planning activities within the sector; it will also address the extent to which the current planning process facilitates the implementation of the NTP. It is aimed at demonstrating the importance of a set of transport strategies for implementing the existing National Transport Policy, while identifying critical areas for attention within the sector. The development and use of a transport strategy by the United States of America (U.S.) government will be comparatively assessed alongside Jamaica. The research will therefore seek to do the following:

- Identify the major policy inputs to the strategy development process;
- Identify the entity which should assume the responsibility for developing and implementing this strategy;
- Address the importance of aligning the country's transport sector with its economic development goals.

- Assess how the implementation of the NTP as dictated by the strategy could be financed, taking into account the current finance mechanisms being employed and possible alternatives;
- Assess how the NTS could be transformed into a continuous initiative aimed at catalyzing the growth of the Sector;
- Elucidate how the strategy could serve the global market (considering that transportation has a greater administrative, legislative and operational reach than most other sectors);
- Assess how the NTS may be coalesced into an integrated strategy for Jamaica's overall development;
- Assess the impact of culture, the state of practice and infrastructure as well as the future challenges;
- Identify the data gaps that exist within the transport sector, and hence could compromise the planning process; it will also examine possible steps that could be taken towards addressing these data gaps.
- Examine the implications that the lack of a NTS has had for the approaches taken to funding the sector, as well as assess the prospects for other funding mechanisms to be explored and adopted; and
- Make recommendations for developing a strategic planning framework for Jamaica's transport sector, one that could form the basis for kick-starting what should become a useful and ongoing transport planning process.

The research demonstrates the important role of a national transport strategy in ensuring that the mission and vision for the sector are materialized. The aim is to put forward practical and relevant recommendations that could contribute to improving the Ministry's planning processes.

1.6 A synopsis of the research structure

The document will include chapters that cover a range of subjects; it draws on experiences, primary research and existing literature to provide a comprehensive assessment of the issues. The structure of the other sections of the paper is outlined as follows:

Chapter 2 includes a review of pertinent literature it presents a global and more diverse perspective on how the government in different jurisdictions have incorporated strategic planning in their overall development attempts and in particular how it has served as a useful tool for the transport sector.

Chapter 3 presents details on the methodology that was developed and incorporated in examining the transport planning environment in Jamaica and that existing in the U.S. The comparative analysis procedure that was applied facilitated the use of primary and secondary sources of data and information.

Chapter 4 incorporates a SWOT[3] analysis on the current state of Jamaica's transport sector. This includes an examination of the administrative, legislative and institutional structures and processes that are pertinent to the transport sector specifically as it relates to the MTWH and the agencies that comes under its purview. This chapter also provides a synopsis of the past and current approaches that have been (or are being) taken by the GoJ for securing funding for the transport sector. This section of the paper provides an assessment of the impact that politics have had on defining the current approach taken by the Government in its effort to develop the transport sector. It also presents an evaluation of the policy positions of the two main political administrations, highlighting the influence that these differences could have on implementing the NTP.

Chapter 5: The chapter provides a comparative analysis of the U.S.; it presents the basis for illustrating the significance of a strategic planning process for advancing the development objectives of the transport sector. There was particular focus on how the transport strategy has been leveraged as a tool or optimizing the available funding mechanisms and establishing priorities within the sector. A *best practice* approach was incorporated in developing this chapter and therefore transcended any individual modes. In order to facilitate the necessary comparisons, this section of the study outlines and assesses the institutional, administrative and legislative structures that are in place, as well as the approaches taken towards developing and funding the implementation of a transport strategy. This chapter also presents a general account of how the strategy aligns with the overall development vision for the U.S.'s transport sector, and how the strategy is used to enhance its global transport perspective.

Chapter 6: A primary objective of the research is to provide a framework that will enhance the manner in which planning and implementation are carried out within Jamaica's transport sector, and also to provide a mechanism for implementing the NTP; an issue that has to date only been addressed in a piece-meal manner. This chapter focuses primarily on the application of the findings from the analysis, literature and U.S. case study to offer recommendations in keeping with: the lessons gleaned from the identified *best practices* and its application to Jamaica's transport sector; the proposed strategic framework for Jamaica's transport sector, and specific areas of application for evaluating the several mechanisms for financing Jamaica's transport sector.

[3] *SWOT means 'Strength, Weaknesses, Opportunities and Strength".*

Chapter 7: The analyses presented in the previous chapters highlight areas of the current NTP that may require revision in view to improving the financial prospects for the sector. This chapter also provides feedback that may be incorporated into the impending NTP review process that is to be spearheaded by the MTWH (based on the NTP, areas of the policy were slated for annual revisions, however, to date; a revision has not been done on the policy).

Chapter 8: The concluding chapter pulls the overall research together, it presents the findings; set the stage for further work to be done by the MTWH towards building on the proposed NTS framework and ultimately developing and implementing a comprehensive NTP; and identify other areas for possible research. It also outlines the next steps in the formation of recommendations to be explored by the Ministry based on the analysis.

CHAPTER 2:

LITERATURE REVIEW

CHAPTER 2: LITERATURE REVIEW

"We plan because we try to mitigate uncertainty… Part of our planning psychosis is an endeavor to measure and thereby control risk. Risk is uncertainty that matters, i.e. it affects or has a negative impact on the organization. Strategic Planning is supposed to find ways to generate sustainable returns while understanding the risks…"
(Beerel, 1998)

Jamaica's transport sector, like many other sectors within this and other countries, is consistently faced with challenges created by their dynamic social, economic, environmental and political environments. This has called for decision-makers within the sector to assess and adjust the planning and development mechanisms in an effort to enhance its performance. To address this, it is often required that relevant policies be developed and implemented to steer the sector along the most ideal path. In most cases, a strategic approach is seen as important if the transport sector is to adequately keep pace with the dynamic environment both at the local and global scales.

This chapter presents a review of literature on the subject, cited in both developed and developing countries. It includes a general assessment of the transport sector, the strategic planning process (with particular focus on its application to the field of transportation), the impact of the transport sector on development, planning and financing activities within the transport sector, and the overall current global trends that exist within the transport sector.

2.1 Strategic Planning and Policy Implementation

Strategic planning and policy implementation are important processes of the development machinery of any government. The outcome of the process is dictated by the approach taken towards defining strategic planning. "Strategic planning is a formal process designed to interpret the organization's environment for the purpose of identifying its adaptive challenges and guiding its responses so as to optimize its longer term competitive advantage"(Beerel, 1998). While this is recognized as a useful tool, "when strategic planning begins to be accepted in an agency, there may be a tendency to include any number of items in the plan and to 'give everybody a piece of the action'…this can dilute the effectiveness of the plan by dispersing attention across a wide variety of issues that do not have real long-term importance" (Transportation Research Board [TRB], 2004).

Another approach to defining strategic planning is as "a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it…" (Lawrie, 2005). Therefore, "the strategic planning function within the living organizational network is the

key node that drives organizational self-organization. As such, the strategic planning process is the organization's claim not only to what is, but what it would like to become" (Beerel, 1998).

An important approach to establishing the strategic objectives that will drive the planning process is to undertake analyses of the existing characteristics of the environment in which the planning process is to be executed. A common method used, has been to identify the strengths, weaknesses, opportunities and threats (SWOT) for the scenario being assessed. According to Hung & Nguyen (2012) "many people commonly misperceive SWOT as synonymous with strategic planning. In fact, a SWOT analysis is only one of many tools that can be used in an organization's strategic planning process for environmental scanning." Further, Dix & Mathews (2002) stated that, "since SWOT analysis is an exercise dependent on judgment, the input from multiple sources provides an opportunity to assure all that the points of view and important issues are considered"

"The practice of strategic planning achieved considerable popularity in private-sector organizations in the 1960s and 1970s. In the 1980s, it became more and more prevalent in the public and nonprofit sectors" (Lawrie, 2005). In fact, "transportation agencies within the United States of America began initiating strategic planning efforts some 20 years ago, and leaders in the field have been working to strengthen their capacity for strategic management ever since (TRB, 2004). It has been broadly acknowledged that "while the strategic plan guides the agency's management activities, it can also help those outside the agency… These strategic plans can be very helpful in developing statewide strategies to meet workforce, technology and facility needs" (Office of Financial Management [OFM], 2008). In the United States "…most of the Departments of Transportation (DOTs) developing strategic plans have employed components of what has become the *conventional* strategic planning process; that is: clarification of mission and values; development of a vision of success; environmental scanning and assessment of driving forces behind external threats and opportunities; an analysis of the department's capabilities and performance and assessment of internal strengths and weaknesses; development of strategic goals and objectives and/or conduct of situational analyses to identify the strategies facing the department; development of overall strategies and/or strategic initiatives; and the definition of associated performance measures" (TRB, 2004).

The strategic planning process can be very complex and hence involve numerous players; as stated by Meyer (1988) "strategic planning/management is not a one-time effort. The very reason for undertaking such an effort that is, dealing with the uncertainties of a rapidly changing world suggests that managers need to monitor continuously what is happening in their organization's environment and to be prepared accordingly". Essentially, "strategic management encompasses planning, implementing, evaluating, and

updating a strategic agenda aimed at maintaining the most viable fit between an organization and its external environment and moving into the future in a deliberate, purposeful manner" (TRB, 2004). Therefore, "strategic planning has become the practical approach to organizational management in most organizations in the new era, when the world has undergone major social, political, economic, technological and demographic changes" (Hung & Nguyen, 2012). In organizations where this process have been applied, it is recognized as being very demanding, nonetheless "although this process has been time-consuming, senior managers believe that it has provided useful input to ensure that employees understand the agency's mission, identify with its goals and objectives and feel committed to advancing their strategic plan" (TRB, 2004).

It is important to distinguish between strategic planning and strategic thinking. "The planning element involves the data collection, goal setting, expectation definition and statement of direction. Strategic thinking includes the intuitive and creative elements" (adapted Dix & Mathews, 2002). "The results of strategic planning are immediate managerial and resource decisions, rather than recommendations regarding the future operation of a program, facility or organization; an actionable agenda that is intended to help these agencies initiate change, rather than just react to it" (TRB, 2004).

Strategic planning is characterized by different objectives at different levels of the. "At the overall organizational level, it is particularly concerned with the synergy of the entire group and developing the systemic properties that belong to the whole. At the divisional level the strategic planning function wants to promote systems thinking and guide operating divisions in understanding their roles in the various systems of which we are a part" (Beerel, 1998). It must be acknowledged, however, that "strategic planning and strategic management each has a role to play in organizational development, whereas strategic planning is the 'cornerstone' of the strategic management process" (Vizant & Vizant, 1996). By way of definition "strategic management is the overarching process of managing large-scale, sometimes very fundamental change to ensure a high level of performance over the long-run" (TRB, 2004).

"[A] comprehensive approach to strengthening organizational effectiveness, which Pennsylvania Department of Transportation (PennDOT) began in 1998, revealed that the lack of an effective strategic planning process constituted a major performance gap in the Department. This assessment showed that although strategic planning was taken very seriously at PennDOT, the resulting plans did not drive decision and behavior in the department on a consistent basis, the plans were not used effectively to manage people and the organizational unit, and the plans were not necessarily tied to fiscal reality" (TRB, 2004). Dix & Mathews (2002) iterated that "the strategic plan, to be of real long-term value, must be treated as an ongoing business process. It must be reflective of the owners' mission and vision. It must

evolve and change to reflect changing market and economic conditions. It must be proactive to competitive, market and economic conditions".

The strategic planning process has had its share of criticisms; Mintzberg argued that "strategic planning, as it has been practiced, has really been strategic programming, the articulation and elaboration of strategies, or visions, that already exist". In the same article he further asserts that "strategic planning does not fail because of such commonly mentioned pitfalls as a lack of commitment from top management or resistance to change, but instead because of its fundamental nature of being too analytical, too formalized, and too detached from the functions and interests of the business's line managers" (Mintzberg in Lawrie, 2005).

"Experience has shown that agencies often need to be more selective in defining the goals, objectives, initiatives, and priorities that constitute strategic plans to ensure that these plans are truly strategic and that they can be implemented effectively" (TRB, 2004). The ability to effectively communicate the outcomes of the strategic planning process is critical to having an efficient process in place. "The benefit of the discipline that develops from the process of strategic planning, leads to improved communication. It facilitates effective decision-making, better selection of tactical options and leads to a higher probability of achieving the owners' or stakeholders' goals and objectives" (Dix & Mathews, 2002). To make strategic planning most effective, it should be incorporated into the entity's planning and performance monitoring systems. According to the TRB (2004); "the annual Employees Performance Reviews (EPRs) are driven primarily by the strategic agenda, so that individuals who are owners or leaders of strategic objectives, or otherwise identified as having some responsibility for them, have those objectives and their attendant action items, along with accompanying performance measures, embodied in the EPRs".

Strategic Planning remains an important and current tool within various sectors, with particular consequences for the transport sector. Notwithstanding "strategic planning can be a challenging process, particularly the first time it is undertaken in a company. With patience and perseverance as well as a strong team effort the strategic plan can be the beginning of improved and predictable results for a company" (Dix & Mathews, 2002). However, "strategic planning has limitations and should not be considered a panacea for all organizational problems or situations" (Lawrie, 2005).

2.2 Limitations of Strategic Planning

Strategic plans can have tremendous benefits for an organization, however, this process has its own limitations and as such must be approached with the aim of addressing these as best as possible.

According to Evans (2013) "Strategic Planning is difficult. It requires that people think differently. Strategic planning needs to be a creative process with new ideas… Many people are not well suited for this type of decision making… Some people are not comfortable with new activities and tasks". Another challenge is related to the insightfulness of those at the helm of an organization, "a crucial component of managerial behavior in rapidly changing environments is problem sensing, the cognitive process of noticing and constructing meaning about environmental change so that organizations can take action" (Duhaime, Stimpert & Chesley, 2011). Essentially, an awareness of the limitations of the planning process allows planners to take adequate measures in advance, in an effort to avert or alleviate the negative issues that may occur.

2.3 Strategic planning and the implications for the transport sector

The role of trade in economic development is highlighted in the eighth Millennium Development Goal that seeks to "develop a global partnership for development," and in its targets for an "open, rules-based, predictable and non-discriminatory trading system that addresses the special market access needs of the least developed countries (World Bank, 2008).

According to Meyer (1988) "Much of the interest in corporate strategic planning in the early 1980's was found in public transit agencies faced with the major uncertainty of potential future cutbacks in federal funding, [therefore acknowledging] the importance of a strategic management process in addressing such a situation". The concerns related to the transport sector often require "widespread government and municipal intervention in pricing and subsidized provision of infrastructure and services are prevalent in both developed and developing countries. Beyond simply the political profile of such services, there is often a policy aim of transport equity- the idea of accessibility and affordability of basic transport service (World Bank, 2008). As pointed out by the Ministry of Kenya (2009) in addressing the role of its transport strategy, "the transport sector is important not only in improving the competitiveness of products from Kenya and the region, but it also serve as a significant basis upon which the economic, social and political pillars of this long term development strategy will be built". The World Bank (2008) also aptly stated that "national transport strategies that seek to address priorities therefore need to take account of the full costs of different modes".

2.4 The Role of Transportation in Overall National Development

There is a direct relationship between improvements in the transport sector and growth in the economy. According to the National Transport Library (NTL) (1994), "in order for a healthy relationship to be in place "a proper economic climate must also exist, as well as other support services". As the Connecticut General Assembly (2000) asserts, "economic growth can be linked to targeted investments in

transportation infrastructure. In other words "…transportation is a key ingredient in local economic development decisions" (National Association of Development Organizations [NADO], 2009). Essentially, "…transportation is responsible for the development of civilizations from very old times by meeting travel requirement of people and transport requirement of goods" (Mathew & Rao, 2006).

In Asia, as in other developed and developing states, "the economic growth in recent years has led to large increases in the demand for transport and has created the need to ensure that existing strategy addresses the future requirements for transport infrastructure to facilitate economic growth and social development over the long term" (Asian Development Bank [ADB], 1995). According to Eberts (2012) "policy concerns in the next millennium will increasingly focus on the effects of transportation on where people live and on where businesses locate; and on the effects that these location decisions have on land use patterns, congestion of urban transportation systems, use of natural resources, air and water quality, and the overall quality of life". The efficiency of the transport system will be vital to its overall effectiveness; "when transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multipliers effects such as better accessibility to markets, employment and additional investments. The level of efficiency at which a transport sector operates affects many areas of the sector; according to Rodrigue, Comtois & Slack (2009), "when transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as reduced or missed opportunities". However, as stated by the NTL (1994) "transportation improvements do not guarantee increased economic development. To increase economic development, an improvement needs to decrease transportation costs or make transportation more reliable". Effectively, "the questions asked by policy makers are two sided. Not only do they want to know the effect of transportation on additional economic development, they also want to know the transportation needs of future growth" (Eberts, 2012). The anticipated transportation requirements to support future growth should reflect the mobility needs and future mobility opportunities for the country at large.

The transport sector while serving a significant economic purpose (especially at a larger scale), also has social obligations when viewed at a smaller scale. The Indian Planning Commission (IPC) (2001) maintained that, "whereas transportation is an important factor that normally has a tremendous impact on economic development, its role from a marketing perspective is also significant. There are a number of factors which contribute to market failure in the transport sector. Some of the transport services and infrastructure are more in the nature of public good. The economies of scale, an element of sunk cost, need for coordination and presence of externalities, all stands in the way of effective functioning of market".

"Arguably, in many places transportation policy and planning have served to exacerbate the challenges that the community development field seeks to confront, such as socioeconomic segregation and limited economic development opportunities" (Cytron, 2010). It must therefore be acknowledged that "transport improvements generate welfare gains through better exploitation of comparative advantage between regions" (Goodbody Economic Consultants, 2003). WSP (2010) pointed out that "the priority that almost all countries place on transportation reflects the importance of mobility and accessibility for meeting a variety of societal goals for economic and social development. Accessibility depends on well-functioning transportation systems reflecting public and private investments in additional infrastructure and services as well as the individual choices to use them.

2.5 Integrating Transport Policy Implementation across Modes and Sectors

"The transport system comprises a number of modes. The capacity of each has to be developed to meet its specific demand within the requirements of the transport system as a whole. The system has to be viewed at each step as an integrated structure…" (IPC, 2001). According to Potter, Giovanni & Banister (2010) (in Preston, 2012), "integration is a multi-faceted concept that includes a number of factors and a multiplicity of definitions". Preston (2012) in highlighting the importance of integration in the sector, in light of the inherent challenges later stated that "the concept of integrated and seamless transport has wide political support but framing effective policies that deliver the desired outcome has proved difficult".

"The private sector plays a significant role in the change in public policy, which is mimicking the changes that have taken place in the strategies of private transport corporations. The public policy environment is thus shifting towards the consideration of transport as a set of interacting modes instead of independent modes" (Rodrigue, et al., 2009). The aim of integrating transport policy is multi-faceted; "the objective of the integrated transport policy is to foster the development of the various transport modes in a manner that will lead to realization of an efficient, sustainable, safe and regionally balanced transportation system, where each mode of transport operates in its field of economy and usefulness, with competitive and nondiscriminatory prices that are adequate to support progressive development of transport infrastructure and service" (IPC, 2001).

Although an integrated approach is ideal, Preston (2012) recognized "the difficulties in operationalizing integration relate to institutional and individual barriers…The barriers include split or duplicated responsibility, inconsistencies in process, political and public acceptability, information and skills shortages, financial constraints and legislative and regulatory requirements". Another issue also cited was that "many initiatives and resulting documents integrating sectorial perspectives such as transportation,

environmental protection and spatial planning lacks legal status and are therefore vulnerable to political change" (WSP, 2010).

"Theoretical analysis suggests transport integration will not occur autonomously as free market provision is likely to be affected by service instabilities and schedule matching" (van Reeven [2003] in Preston, 2012). It is therefore "necessary to create a policy environment that encourages competitive pricing and coordination between alternative modes in order to provide an integrated transport system that assures the mobility of goods and people at maximum efficiency and minimum cost" (IPC, 2001). In contrast, "however, the evidence also indicates that competition in the market cannot deliver integrated transport" (Preston, 2012).

"The microeconomics perspective sees integration as a response to market failure… If consumers value integration, the free market will provide it" (Hibbs, op cit.). Owing to the peculiarities of the transport sector, however, "integrated transport requires public intervention" (Preston, 2012).

2.6 Approaches to Project and Program Prioritization within the Transport Sector

"Resources cannot be properly allocated without goals and priorities. Goals cannot be achieved without understanding how external factors and internal capacity affect them" (OFM, 2008). Fundamentally, "there is a more general need to review alternative transport policies and strategies to provide a clear indication of options available to the Government and the implications of continuing the current policies or adopting alternative approaches" (ADB, 1995).

The planning and prioritization of development in the transport sector are often not given enough attention. As exemplified in the case of Kenya, its Ministry of Transport (2009) stated that, "there was no time at policy formulation stage to allow for prioritization of the actions in each category. The impression created is that all short term actions will be implemented simultaneously followed by medium-term and long-term actions in that order. However, this is not the case and actions in every category should be prioritized". The ADB (1995) stipulated in relation to its efforts at prioritization, that "projects will be prioritized based on their social and environmental features, economic and technical factors and consideration of alternative strategies for development of the transport network", indicating that the basis of prioritization could therefore vary significantly.

As with many other areas of the strategic planning process, research is important to developing a system of prioritization within the transport sector. The ICF International (2008) state that "research should not be limited to strategies for increasing funding, but also the efficient use of funding or project

prioritization, as well as changes to project design and fundamental transportation services that would achieve similar transportation service outcomes under reduced funding availability". A myriad of approaches exists towards undertaking prioritization of transport projects and investments, for instance "an innovative aspect of the new Swedish proposal [was] the application of the so-called four step principles (*fyrstegsprincipen*) to identify investment priorities. One important aspect of this proposal is that it will require new transportation investments to be compared to other types of policies, both other modes and transport demand management policies" (WSP, 2010). The Indian Planning Commission (2001), highlighted the parameters based on which it sought to prioritize public investments, "in view of the severe resource constraint, it will also be necessary to give priority in public investments to those projects, which sustain the agricultural and industrial growth of the country and support the country's foreign trade". The transportation sector is at the heart of both internal and external trade, this provides justification of the reason it should be placed at the top of the priority list if the government's efforts are dedicated to growing the economy through enhancement of its trade regime.

"The transportation industry will face new and emerging challenges in the future, which may dramatically reshape transportation priorities and needs" (ICF International, 2008). The budget is an important indication of the sector's priorities, in the case of the U.S. for example, according to the TRB (2004) "… new strategic priorities may also require strategic changes in the level and allocation of a DOTs workforce, which would then have to be reflected in the budgets."

2.7 Monitoring and Evaluation and the Strategic Planning Process

In order for the strategic planning process to effectively fulfill its aims and objectives, an ongoing process of monitoring and evaluation is essential. "Although the term 'monitoring and evaluation' tends to get run together as if it is only one thing, monitoring and evaluation are, in fact, two distinct sets of organizational activities, related but not identical" (Shapiro, 2012). The strategic planning as well as the evaluation and monitoring processes are very involved and hence have specific requirements. These "include collecting a meaningful and broad data base, creatively thinking about differentiation, defining gaps, assessing core competencies, understanding and identifying critical resources and skills" (Dix & Mathews, 2002).

"Monitoring and evaluation can help organizations extract relevant information from past and ongoing activities that can be used as the basis for programmatic fine-tuning, reorientation and future planning. Without effective planning, monitoring and evaluation, it would be impossible to judge if work is going in the right direction, whether progress and success can be claimed, and how future efforts might be improved" (United Nations Development Program [UNDP], 2009). There are many tools that might be used to implement the strategic plan as well as carry out its monitoring and evaluation functions.

According to the TRB (2004): "the use of [a] business plan drive department-level strategic plans down into the organization [and] is seen as critical for encouraging a focus on the department's overall strategic agenda, imposing discipline on operating decision making, enforcing strategic priorities throughout the organization and organizing and emphasizing action items designed to achieve strategic objectives". Therefore, as Shapiro (2012) adequately puts it, "monitoring and evaluation should be part of your planning process. It is very difficult to go back and set up monitoring and evaluation systems once things have begun to happen".

2.8 Traditional and Non-Traditional Approaches to Funding the Transport Sector

"The process of funding transportation is extremely complex because so many entities are involved, the sources of funding are so diverse, and the objectives of the numerous decision-makers often differ" (Florida State Department of Transportation [FS-DOT], 2005). As expressed by the IPC (2001) "in sectors traditionally funded by the States such as roads, it is essential to explore innovative avenues for mobilization of resources. The principle of charging would be recovery of cost including maintenance taken as an element of cost".

The FS-DOT (2005) in addressing the situation in Florida, iterated that "collectively the public and private sector have not been able to keep up with increases in travel and transport demand in Florida, fueled by continued growth and development on every segment of the transportation system. The gap has led to calls for a better return on federal tax proceeds, more use of borrowing, increased use of tolls and creative solutions to funding transportation needs". The IPC (2001) pointed out that, "in order to augment availability of resources for the [transport] sector, the budgetary resources should be used to leverage private investment". Increasingly, there has been a tendency towards greater private sector involvement in the transport sector in many countries, which is essentially not a new concept (including for Jamaica), "the trend towards greater private involvement in the transportation sector initially started with the privatization (or deregulation) in the 1980s of existing transportation firms. New relationships started to be established with financial institutions since public funding and subsidies were substantially reduced and new competitors entered the market" (Rodrigue et al., 2009). "Strained public budgets and frustration with transport projects that are prioritized but never financed has led governments to seek alternative financing mechanisms. We can note a general trend towards public policy that promotes public and private partnership in the planning and financing of transport infrastructure "(WSP 2010).

According to Dix & Mathews (2002) "…strategic planning pays dividends to companies when approached in a disciplined process with top-down support and bottom-up participation". There are numerous objectives of involving the private sector in public sector development initiatives; as expressed

by Rodrigue et al. (2009) "one of the core goals of privatization concerns the derived efficiency gains compared to the transaction costs of the process. Efficiency gains involve a higher output level with the same or fewer input units, implying a more productive use of the infrastructure".

"Facing the growing inability of governments to manage and fund transport infrastructure, the last decades have seen deregulation and more active private participation… Once privatization is considered, an important issue concerns which form it will take. There are several options ranging from a complete sale of the infrastructure to a management contract where the public sector retains ownership and a share of the revenues" (Rodrigue et al., 2009).

In delving deeper onto the topic of privatization in the transport sector, Rodrigue et al. (2009) stated that, "transportation infrastructure, like several infrastructure classes, has a significant level of public involvement ranging from direct ownership and management to a regulatory framework that defines operational standards. This is notably the outcome of a tradition where transportation, particularly roads, was seen as a public good not to be subject to market forces and be free of access. A similar trend applied to port and airport infrastructures that were placed under the management of public authorities… Each partner that has responsibility for financing transportation projects is unique and must determine the best mix of financial tools to be used for each project and its overall financial plan".

"Although a level of privatization is commonly perceived as a desirable outcome for the efficient use and operation of transportation infrastructures, privatization comes with limitations. In some instances privatization can be unsuccessful" (Rodrigue et al., 2009). The Ministry of Transport of Kenya (2009) recognized that for "economic infrastructure and operations which provide measurable economic or financial returns, user charging or cost recovery from direct users [should] be applied as far as possible." There are various mechanisms of user charges that may be applied in privatizing the transport sector, among these are concessions. "Concessions are a simple and fair strategy involving a bidding process, which underlines the importance to have it take place in a transparent and open way. This is particularly relevant in the current context as retirement funds, sovereign wealth funds, investment banks and other financial institutions are increasingly involved in the funding of transportation infrastructure (Rodrigue et al., 2009). It must be noted, however, that the relevance of the user charge mechanism should be assessed within the jurisdictional context for the transport sector; in the case of Kenya for example, it was acknowledged that the "social and strategic infrastructure and operations that cannot be financed through user charges will be financed in a transparent manner through appropriations, grants or subsidies to achieve an equitable distribution of resources, or as an incentive. In the longer term, the Government of

Kenya will seek a reduction in the subsidization of transport operations, predicated on a more effective and efficient public transport system being developed (Ministry of Transport, Kenya 2009).

2.9 Strategic Planning for Optimizing Finance Strategies for the Transport Sector

"In many U. S. Departments of Transportation (DOTs) the strategic plan and the budget influence each other, with overall budget realities influencing the development of strategic issues and plans, and strategic plans then influencing budget priorities within the range of discretionary decision-making" (TRB, 2004). As stated by ICF International (2008), "leveraging present resources and identifying new strategies for funding is the basis for all transportation agencies' goals and ability to provide accessible, safe, and reliable transportation to the public."

"In many transportation departments, the business planning process provides the link between strategic initiatives and funding decisions" (TRB, 2004). According to ICF International (2008) "the ability to finance transportation projects is fundamental to the delivery of transportation services including initiating new projects, preserving and maintaining existing infrastructure, and operating transportation services". As pointed out by the OFM (2008), "the strategic plan should provide a clear picture of what the agency believes it needs to do to achieve its goals within identified funding, environmental, political or other constraints. It should tell the story upon which the financial plan is based". Also, "the strategic plan and the budget influence each other, with overall budget realities influencing the development of strategic issues and plans, and strategic plans then influencing budget priorities within the range of discretionary decision-making …departments do employ a mix of budgetary mechanisms to make sure that strategic initiatives are funded" (TRB, 2004).

The TRB (2004) stipulated that the "most strategic initiatives are supported through the normal budgeting process, which allocates resources to organizational units for particular uses". It also points to the use of planning and monitoring processes to aid the budgeting process (such as dashboards and scorecards), "the dashboard is concerned more with more immediate performance, whereas the scorecard is more future oriented. Thus, the dashboard focuses on ongoing operations rather than strategic initiatives, and tends to be more input and output oriented, whereas the scorecard is more oriented to outcomes and results" (TRB, 2004). The outputs from these processes are important indicators that are often used to inform the budgeting process.

2.10 The Global Strategic Development Trends in the Transport Sector

"The forces of globalization, government regulation, and idealistic extremism of nationalist and religious natures (e.g. terrorism) are expected to be key political trends that will shape the future" (ICF

International, 2008). According to WSP (2010), "spatial planning is a particularly important tool in this respect. Spatial plans coordinate a variety of functions, investments and policies in space and also identify key functional relationships across scales. We can observe a number of countries that have attempted to add a spatial perspective to the process of transportation planning, with mixed success". The ICF International (2008) highlighted that "the increasing level of economic integration and development of mega-regions suggests that the transportation agencies will need to develop effective institutional mechanisms for working across jurisdictional and functional boundaries". The NTL (1994) also iterated that "as the U.S. economy becomes increasingly interlinked and with the rising importance of international trade, goods are being shipped over longer distances, and shipping and logistics costs are an important portion of overall production costs. The seamless transfer of components, finished products, and bulk commodities between ships, railcars, airplanes, and trucks is important to minimizing those private production cost.

"International customers of transport are demanding high service levels, while operators are consolidating globally to meet the needs of global customers. The design and operation of the transport system therefore demand high transport quality for the industry", (Ministry of Transport, Kenya 2009). Consequently, "it is important to note that many of the trends and forces affecting the future are interrelated. For instance, societal and political factors may be in response to underlying changes in technology and economic structure" (ICF International, 2008).

Environmental are among the major global issues that are anticipated as pointed out by the IFC International (2008), "the Energy Information Administration forecasts that world energy consumption will grow by 50% over the 2005 to 2030 period; only 15% of this growth will be within the developed world. Consequently, world carbon dioxide (CO_2) emissions are projected to increase from 28.1 billion metric tons in 2005 to 34.3 billon metric tons in 2015 and 42.3 billion metric tons in 2030. Technology has rapidly advanced over the past several decades, and the future promises even more and potentially greater changes in technology, which offer the potential to enhance communications, health, safety, and quality of life. The ICF International (2008) also stated that "increased capability and access to information and communications technology (ICT) will offer unprecedented amounts and variety of data, and even greater interaction among people independent of geographic location, with implications on public expectations for information". Generally, it is believed that "Many public managers have looked carefully at how private sector organizations anticipate future challenges and develop strategies today that can help meet the challenges of tomorrow" (Meyer, 1988), but a lot remains to be addressed in this regards.

2.11 Conclusion

Strategic planning is a multi-faceted tool that presents a range of opportunities as well as shortcomings as previously highlighted. Notwithstanding, “Good planning helps us focus on the results that matter, while monitoring and evaluation help us learn from past successes and challenges and inform decision making so that current and future initiatives are better able to improve people’s lives and expand their choices”(UNDP, 2009). Strategic planning therefore presents a strong prospect for helping to streamline the advancement and performance of Jamaica’s transport sector.

CHAPTER 3:

METHODOLOGY

CHAPTER 3: METHODOLOGY

The nature of this study had a direct impact on the development and application of the methodology that was used. The research is based on an overall case study comparative analysis in which Jamaica is the base case and the U.S. is the comparative case for analyzing the strategic planning process in the transport sector (see *Figure 3.1*).

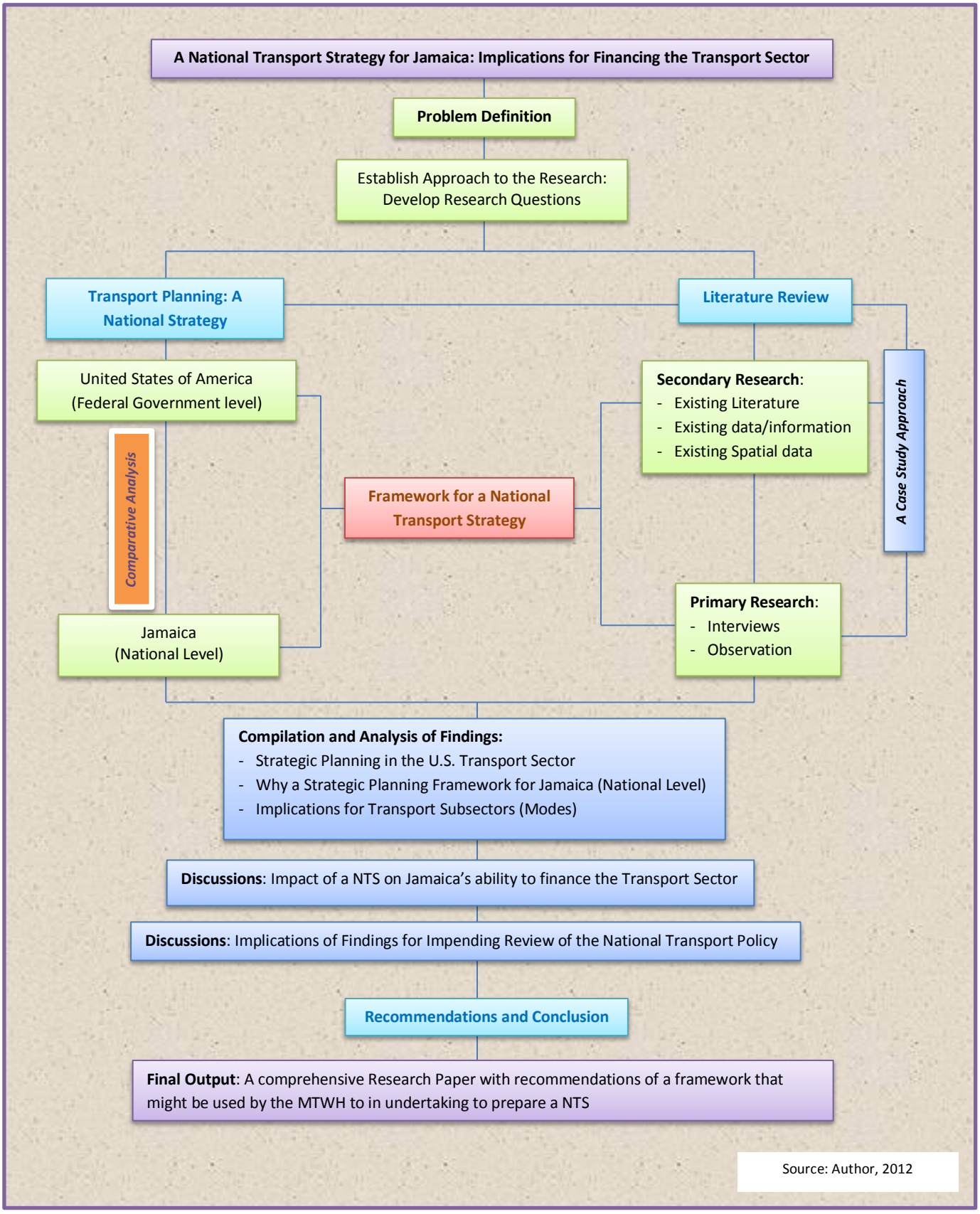
This chapter will provide detailed information on the approach taken towards completing the study. In particular, it will: outline the research questions; highlight the methods of data collection and the bases of analysis; define and discuss the parameters and extent of the strategic planning process; identify the potential limitations of the research process as well as the research; and assess possible constraints to data validity and reliability. Finally, the chapter provides a justification of the methodology that was used.

3.1 A Comparative Case Study Approach

The topic of study was chosen based on first-hand experience and acknowledgement that research of this nature can prove beneficial in contributing to efforts aimed at driving Jamaica's transport sector towards realizing its growth and development potential. Using a case study approach allows for different parameters of the study to be evaluated, for trends to be identified, relationships among different factors to be understood and for meaningful inferences to be drawn.

The research was designed in a manner that allowed for a comparative analysis of the strategic planning process being undertaken within the U.S at the Federal Government level and the equivalent, or other processes being undertaken at the central level of the GoJ. This comparison is being undertaken with a view to identifying best-practices that might be incorporated into the proposed strategic planning framework that will be developed in regards to Jamaica's transport sector. Based on the goals and objectives of the research, as outlined in *Chapter 1*, the methodology generally incorporated a combination of analytical and prescriptive methods for assessing the issues which form the basis of the study.

Figure 3.1: Simplified Outline of Research Methodology



3.2 Research Questions

The research questions were developed based on the content and context of the research. The following questions reflect the issues that gave rise to an interest in undertaking this study:

1. Are the current administrative and legislative procedures that are in place for Jamaica's transport sector adequate for meeting the anticipated increase in transportation and travel demands, resulting from projected economic growth and social development?

2. Are the current administrative and legislative structures that are in place adequate for facilitating integration and linkages within the Jamaica's transport sector (across modes and across sectors)?

3. Is the current NTP adequate for facilitating the strategic development of Jamaica's transport sector?

4. What are the financial arrangements that are in place to drive the development of the transport sector? What impact does the absence of a NTS have on the GoJ's ability to finance the transport sector? How will the NTS enhance the Government's potential to identify funding opportunities and optimize sector performance?

5. Is there a system of planning and project prioritization within Jamaica's transport sector? If there is, what is its basis? How strategic is this system, especially from a funding perspective?

6. Does the current state of Jamaica's transport sector enhance the country's state of economic competitiveness?

7. With due consideration of the difference in scale between the two countries, are there lessons to be garnered from the U.S. experience with regards to national level strategic planning in the transport sector,?

3.3 Data collection

In order to make this research relevant and accurate, the pertinent data and information were obtained from a number of sources using a range of research instruments such as interviews and observation. Information was collected from both secondary and primary sources as detailed in the following sections.

3.3.1 Data Collection Instrument

A vast amount of the information that was used in the study was pre-existing, and was collected from various sources. The data/ information collection instruments used were determined by the type of data/ information being collected in each instant. The instruments used facilitated the collection of existing literature, compilation, review and analysis of same. In addition, interviews were administered to get the opinion of relevant persons within the MTWH.

3.3.2 Data/ Information Collection Procedure

Data was gathered on the administrative, legislative and institutional environments and characteristics of transport sector in Jamaica and the U.S. The overall political and socio-economic setting within which the sector must operate also created the backdrop for a lot of the information that was collected. This information was gathered using the procedures that are highlighted below.

Secondary Data/ Information Collection

Secondary data collection techniques were used to obtain previously existing materials gathered in other research, policy and legislative activities, and was available in various documents. Literature search and review was the primary method through which this data/information was collected. The search for information revealed that the situation being examined in this case for Jamaica is not unique to the country; therefore existing literature was found which enriched the analysis process. The literature review undertaken to establish the background for the study, the information on the experience of the U.S. in the area of strategic transportation planning and the data and information on the situation that currently pertains in Jamaica, were among the areas for which secondary data and information were sought and obtained.

Primary Data/ Information Collection

The research used a minimal amount of primary data. The primary data that was used was obtained from structured and unstructured interviews at the decision- making levels within the MTWH. The questions that were included on the structured interview were aimed at obtaining clarity on matters relating to the state of the transport sector (including funding) and the Ministry's position on pertinent policy issues in order to get an understanding of the operating procedures within the Ministry and obtaining the views of these senior officers within the Ministry regarding the aims and objectives of this research.

Three structured interviews were administered to three senior officers within the MTWH (see *Appendix 1*). The interview was targeted at Officers that were able to provide information on policy issues, matters relating to the financial environment of the GoJ and MTW, transport sector planning, monitoring and

evaluation of existing policies and programs, among other issues. The Officers interviewed plays a critical role in the Ministry's planning, program development and implementation processes. Consequently they were able to shed light on the current state of the sector in regards to its strategic planning effort, from an internal perspective. It was especially important to obtain first-hand feedback considering the recent change in Jamaica's political administration.

Source of Information

The information used in the research, was obtained from different sources. Among these sources information was obtained from the actual entities as well as from their websites, they include:

- Ministry of Transport, Works and Housing (and its agencies);
- U.S. Department of Transportation (U.S. DOT)
- Ministry of Finance and Planning (MoFP), Jamaica;
- Georgia Institute of Technology (Georgia Tech) libraries, course materials and databases;
- Office of the Prime Minister/ Cabinet office;
- Urban Development Corporation (Jamaica);
- PIOJ; and
- Statistical Institute of Jamaica (STATIN).

The MTWH was identified at an early stage in the process, as a major depository of information that was used to enrich the research. The corporation of the Ministry was readily obtained owing to the relevance and timeliness of the study to its position on the matter.

3.4 Data Analysis

The data/ information that were collected provided a range of diverse issues to be considered. Consequently, the analysis process was streamlined based on the aim of the study and the parameters that were used for assessing the rudiments of a strategic planning process, the importance of a transport strategic plan and the implications this could have for financing the transport sector in Jamaica.

3.4.1 Critical Parameters in Developing the Transportation Strategic Planning Framework

The development of an appropriate and effective strategic planning framework for Jamaica's transport sector required that the key factors impacting the development and establishment of such a framework be identified. These parameters included the:

a. comprehensiveness of the current approach taken to transport planning and program development in Jamaica;

b. coordination among Jamaica's transport sector entities;

c. the strengths, weaknesses, opportunities and threat of Jamaica's transport sector and how these might be leveraged to enhance the strategic planning process;

d. coordination of the transport sector planning and programing processes and activities with those of other development sectors within Jamaica;

e. extent that GoJ's policy position (as provided in the NTP) for the transport sector is poised to fulfill its overall role in island's path to development;

f. approach to prioritizing resource allocation within Jamaica's transport sector (including the existing apportionment scheme across the transportation sub-sectors);

g. impact of the legislative and administrative structures on the effectiveness of the planning, program development and resource allocation (in the U.S. and Jamaica's transport sector);

h. sustainability of the financial sources for the transport sector, and how strategic its current allocation process is;

i. role of politics in the planning, prioritization and decision-making processes associated with the allocation of resources within Jamaica's transport sector;

j. level of success of the strategic planning process in Jamaica; the factors that directly contributed to the success of the application of strategic planning to the transport sector within the U.S.; and

k. the extent to which the GoJ's transport plans and processes are poised to advance the nation's development agenda in the global arena.

3.4.2 Approach taken towards identification and Assessment of a Comparative Case

An assessment of the strategic planning processes that have been carried out within the United States' transport sector, revealed that there are many lessons that can be learned in developing a strategic planning framework for Jamaica. There are different levels of strategic planning within the U.S., whereas the planning processes was examined at the state and local levels in the general review of literature; the comparative analysis was carried out at the national level. A national level assessment is appropriate for the issues being considered, with due consideration for the difference in scale between Jamaica and the U.S.

3.5 Justification of the Methodology

There are many challenges confronting Jamaica's transport sector, not least among them is the need for inter and intra-sectorial coordination and linkages. There is also a critical need to identify appropriate and affordable funding for financing the sector. This research will provide a useful strategic planning framework for Jamaica that could be useful in the MTWH's endeavors to develop a NTP. It is therefore anticipated that the Ministry will embrace the opportunity that this research provides, in that it explores a subject area that is very current and relevant to the Ministry's mandate. The study has the potential to benefit the Ministry in general, while contributing to the wealth of application research that has been undertaken within the School of City and Regional Planning at Georgia Tech.

The U.S. DOT has planning systems and procedures in place which have been used at the Federal level to guide the allocation of resources. Strategic planning at the Federal Government level is not carried out in isolation to the State and local levels; rather, the former provides the framework based on which the associated plans and processes of the latter are undertaken. It is acknowledged however, that although there are useful lessons that may be applied in seeking to develop the appropriate strategic planning framework for Jamaica's transport sector, the two jurisdictions being considered have vast differences.

3.6 Limitations and Mitigation Measures

The identification of some of the possible limitations prior to commencement of the research allowed for appropriate mitigation measures to be identified at an early stage in the process. The limitations that were experienced included:

a. The bureaucracy in obtaining some information. The vantage point from which the research was carried out allowed for the hurdles that prevents or retards the efforts in this area to be overcome;

b. The sensitivity of some information in the case of Jamaica based on GoJ confidentiality classification that currently guides its administrative procedures;

c. The length of time that is allotted for completing the research in an effort to meet the timelines set by the Georgia Institute of Technology meant that advanced work activities had to commence prior to the officially "time-tabled" credit hours/ semester; and

d. There were some data/ information that were not be readily available.

3.7 Research Reliability and Validity

The reliability and validity of the data and information used in the research are important factors that

determine its usefulness of the research, and hence the credibility of the conclusions. The reliability of the research on the other hand relates to the extent to which the methodology used could yield the same results if it were to be applied under similar conditions.

Among the factors that could affect the validity of this research are: the *Hawthorne Effect*; the currency of the data used, the differences in the setting in which the strategic planning processes are undertaken or is being conceived for both countries, among others. Consequently, in applying the findings of the research, the reliability and validity issues must be considered.

3.8 Ethical Considerations

In research, there are a number of general ethical factors that must be considered. Throughout this study, the work of others has been acknowledged through the use of citations. In addition, the paper also includes a detailed list of references that were used in one way or another throughout the paper. The information is presented in a manner that eliminates any potential confidentiality issues could arise; therefore as the information that was incorporated in the research is non-sensitive in nature and consequently appropriate to be in the public domain.

3.9 Conclusion

The overall methodology that was used in carrying out this research, involved a range of research techniques that combine to produce the best results.

CHAPTER 4:

WHY A STRATEGIC TRANSPORT PLANNING FRAMEWORK FOR JAMAICA

CHAPTER 4: WHY A STRATEGIC TRANSPORT PLANNING FRAMEWORK FOR JAMAICA

4.0 Overview

The state of transport planning in Jamaica presents numerous challenges. These are due mainly to the often disjointed manner in which planning and programming activities are carried out by the relevant government entities. This chapter will provide a general overview of the physical, social, economic and political characteristics of Jamaica; it will also include an in-depth assessment of Jamaica's transport sector from the perspective of the administrative, legislative and financing structures. This information provides the backdrop for the discussions also presented in this and subsequent chapters of the research. The transport sector is critical to many other development sectors, the extent of the relationships and linkages between these will be examined as it pertains to Jamaica. The chapter generally provides a critical analysis of the sector, with a view to facilitating an appreciation for why a strategic plan could be deemed necessary for Jamaica, especially at this time.

4.1 A Look at Jamaica

Jamaica is an English-speaking country situated in the Caribbean; it is located approximately 579 miles south east of Florida in the U.S., and in the northwestern Caribbean Sea, approximately 90 miles west of Cuba (as shown in *Figure 4.1*).

Figure 4.1: Caribbean Contextual location of Jamaica

Source: http://www.gcjamaica.com/getting-here/our-location/

Jamaica is among the larger islands in the Caribbean; it is approximately 146 miles long and has width variations of between 22 and 32 miles. The island is divided into fourteen parishes (Kingston, the capital city also incorporates St. Andrew to create two distinct parishes); these coincide with the political administrative boundaries as shown in *Figure 4.2*.

Figure 4.2: Political Administration Division of Jamaica into Parishes

Source: Maps of the World

4.1.1 Demographic Characteristics of Jamaica

Jamaica's population is projected to be approximately 2.7 million with an estimated growth rate of 0.36 percent between 2001 and 2011 *(STATIN, 2012)*. The population is distributed variably throughout the island, with the capital, Kingston and St. Andrew accounting for just below 25 percent of the total population. The Kingston Metropolitan Region (KMR), which is comprised of Kingston, St. Andrew, Spanish Town and Portmore (both located adjacent to Kingston and St. Andrew, in the parish of St. Catherine) comprise of approximately one million people, over a third of the island's total population.

4.1.2 Socio-economic Characteristics of Jamaica

Jamaica is a developing country, classified by the UNDP (2012) as a country of *high human development* based on their Human Development Index (HDI). Currently, Jamaica ranks 79th out of 187 countries and has a development index of 0.727 (UNDP, 2012). The HDI is a measure of a number of social factors on a comparative basis; these include life expectancy, standard of living, education levels, degree of literacy and the quality of life of the citizens of the country. The HDI is applied to a scale of "0" to "1" with "1" representing the highest state of human development.

The social wellbeing of the people residing in Jamaica is related to the nature of the activities that drives the local economy. Jamaica has a predominantly open-economy, with the principal development sectors over the years being: tourism, bauxite, aluminum, agriculture and light manufacturing industry. In recent times, however, there have been fluctuations in the performance of these sectors, resulting in overall decline in their performance. While these trends are a reflection of current global patterns, some are attributable to the policies and development decisions taken by the GoJ. According to the PIOJ (2012), *"during 2011, the Jamaican economy recorded improvements in several of the socio-economic and environmental indicators used to assess the country's progress towards achieving the development goals established in the Vision 2030 Jamaica -National Development Plan. Despite significant challenges, the country recorded real Gross Domestic Product (GDP) growth of 1.5 per cent. This followed three consecutive years of economic contractions attributed largely to the impact of the global economic crisis"*. The economic climate has also had direct and indirect impacts on the transport sector.

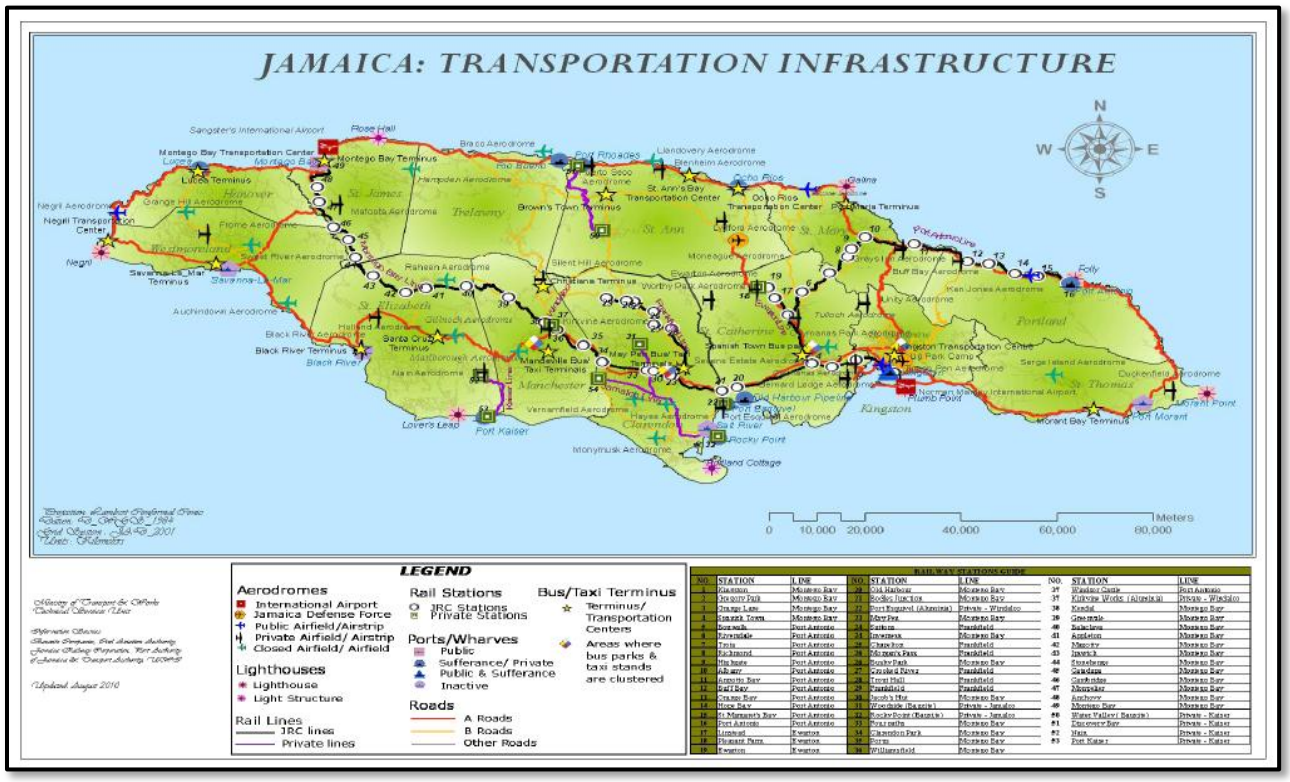
4.2 Jamaica's Transport Sector

Jamaica's transport sector is comprised of various modes including land (rail and road), marine and air transportation. The focus given to each mode has differed both spatially and temporally. This section of the paper provides a contextual background in terms of the structures that form the framework for the transport sector, previous planning initiatives undertaken at different levels of government and matters relating to financing the transport sector. The information included, provides a backdrop to the analysis that forms the foundation of this research, hence also providing the basis for the proposed NTS framework.

Jamaica is known for having one of the densest road networks in the world, with approximately 9,570 miles of roadways of various classes. The railway network covers approximately 205 miles, inclusive of six privately-owned railway lines owned by bauxite companies. Jamaica has two international airports, one international and three domestic aerodromes. As shown in *Figure 4.3* there are 19 ports in Jamaica that qualifies for international trade in keeping with the requirements of the International Ship and Port Facility Security (ISPS)[4] Code for international trade; there are also a number of smaller ports that do not meet these requirements. According to the NTP (2007), the exiting international air and cargo services are deemed relatively adequate; however, there are insufficient domestic air travel facilities. On the other hand, major port development and expansion activities continue with new port developments such as the Falmouth Pier (to accommodate passenger vessels) and expansion activities such as the Kingston Container Terminal (to accommodate freight vessels).

[4] The International Ship and Port Facility Security Code (ISPS Code) is a comprehensive set of measures to enhance the security of ships and port facilities, developed in response to the perceived threats to ships and port facilities in the wake of the 9/11 attacks in the United States. http://www.imo.org/ourwork/security/instruments/pages/ispscode.aspx

Figure 4.3: Transportation Infrastructure in Jamaica

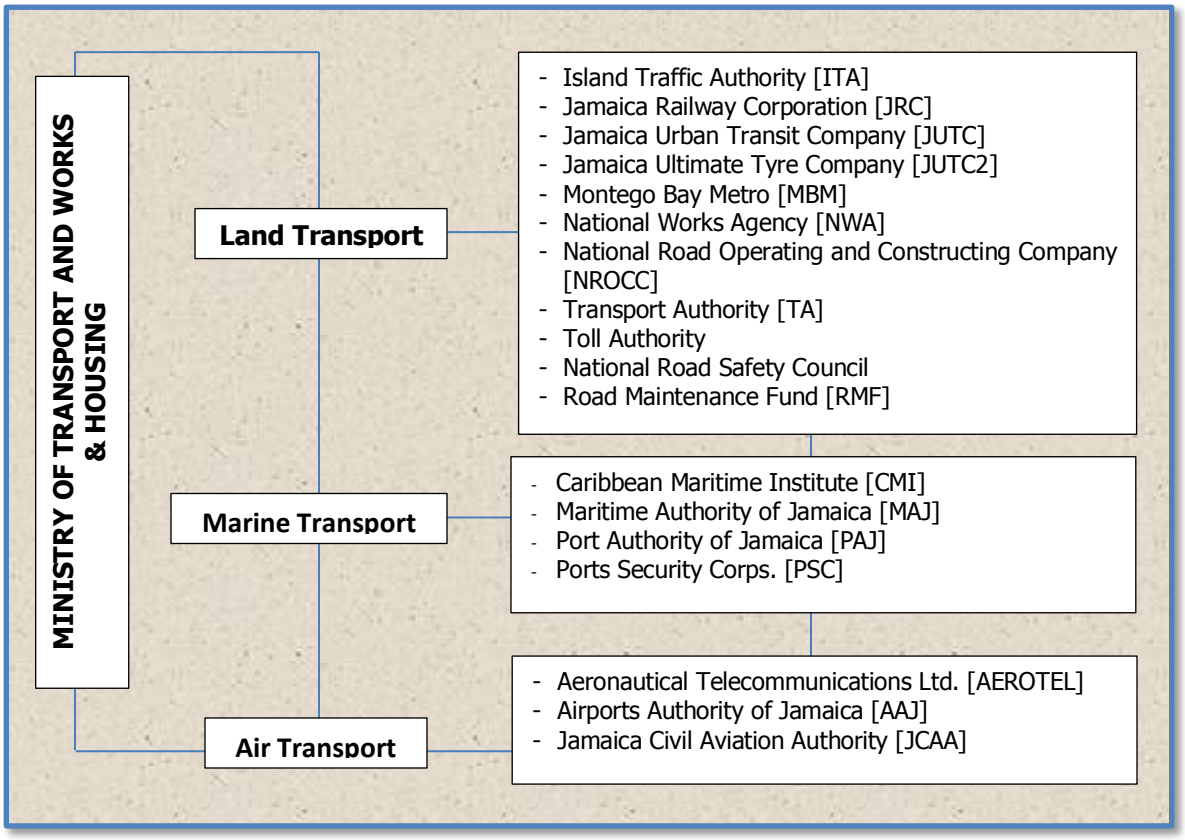


Source: MTHW, 2012a

4.2.1 Institutional Structure

The transport responsibility of the GoJ is carried out by the MTWH (formerly the Ministry of Transport and Works until the general elections in December 2011 when the portfolio responsibility was expanded to include Housing). For the purpose of this research, emphasis will be the Transport and Works subject and entity responsibilities of the Ministry and not on its Housing portfolio responsibilities. The Ministry is comprised of 18 transport portfolio entities which come under the three broad modal categories as shown in *Figure 4.4.*

Figure 4.4: Portfolio Transport Entities of the MTWH (by Mode)



Source: *Compiled from MTW Website, 2011*

The operational mandates of the Ministry are primarily fulfilled through its agencies. In 1996 a Public Sector Modernization process was initiated by the Cabinet Office[5], this resulted in the creation of a policy Ministry which was to effect its operations through the agencies that came under its purview. At the central government level, the Ministry makes the overarching policies to guide the activities of the entities for which it has responsibilities. The modernization process, in addition to removing the operations responsibility from the Ministry's mandate also put in place a system for monitoring the performance of its entities.

The transport agencies shown in *Figure 4.3* are direct reports to the MTWH, which has been tasked by the Cabinet Office to undertake a range or responsibilities. The subjects for which the Ministry has responsibility is diverse and cover areas outside of direct transport matters, these include:

- the operation, regulation and monitoring of public passenger transport;
- the development of transport infrastructure;
- matters of port security;

[5] The Cabinet Office is the highest decision-making body of the Government of Jamaica.

- road and transport safety matters;
- driver and vehicle testing and certification;
- its role as a Licensing Authority;
- traffic management;
- air traffic telecommunication;
- airport operations;
- managing and operating rail transport;
- civil aviation;
- sea ports;
- educating and training seafarers;
- sea defense and river training;
- assisting in disaster management;
- building and maintaining national road network;
- maintaining bridges;
- regulating the use of explosives and other dangerous substances;
- flood water control; and
- land reclamation

Its responsibilities are wide-ranging and hence rely on the legislation and policies that are in place to provide guidance in fulfilling its mandates.

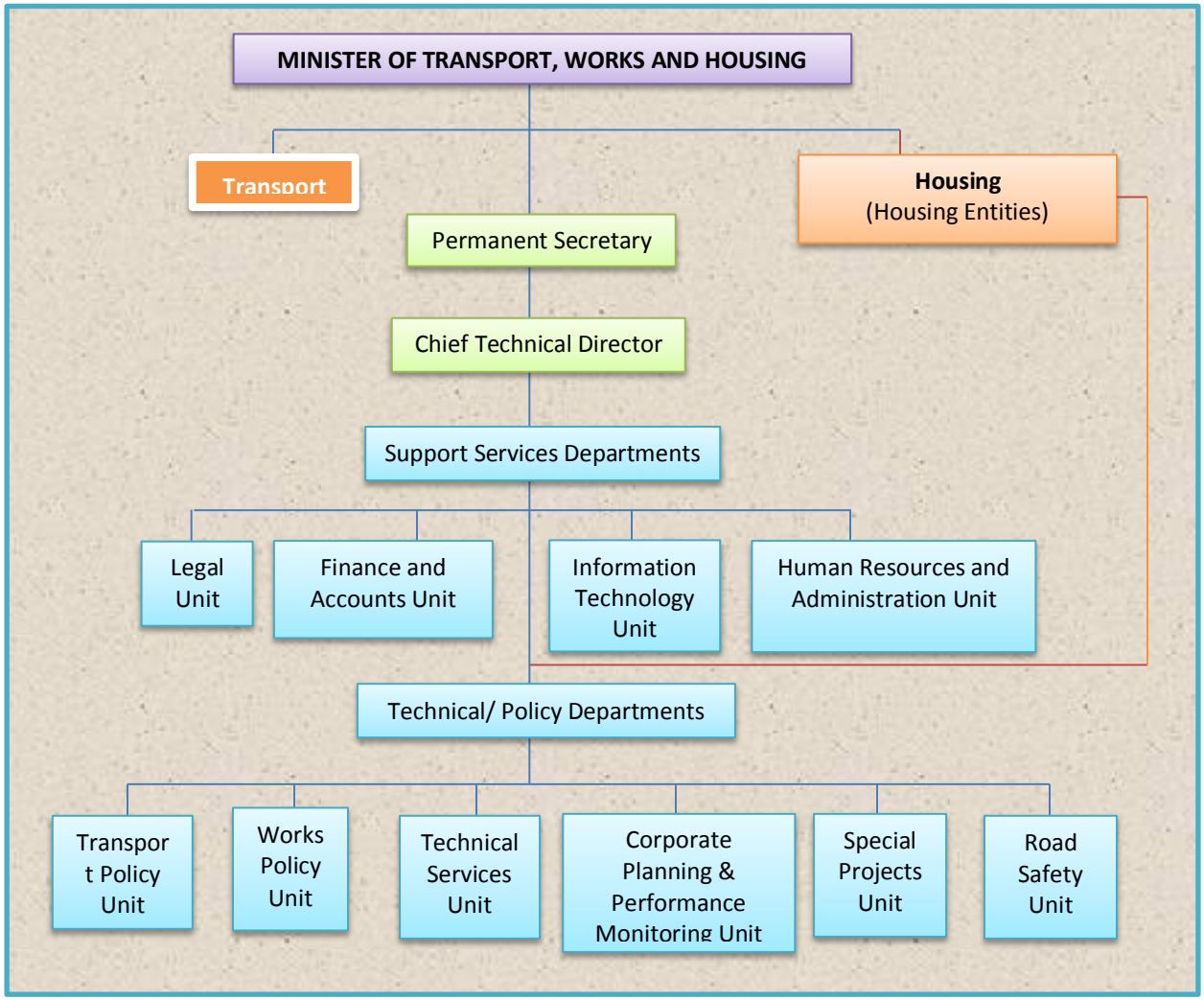
4.2.2 Legislative, Policy and Substantial Considerations

The activities of the Ministry are guided by a range of legislative provisions. These legislations are directly associated with enhancing the capacity of the Ministry and its agencies to fulfill their responsibilities. The legislations and policies that have direct implications for the transport sector are many and cover activities related to the different modes of transportation. *Appendix 2* provides a comprehensive list of legislation and regulations that are administered by the MTWH as well as those that dictate the operations of the Ministry and its entities.

4.2.3 The Ministry's Administrative Structure

The Ministry is made up of several departments that are tasked with carrying out activities related to the development, implementation and monitoring of its policies *Figure 4.5*. These departments in fulfilling their duties are also responsible for collaborating with the various agencies that comes under the Ministry's purview.

Figure 4.5: General Structure of the Transport Section of MTWH



Source: Author, 2013

Jamaica's political arrangement is based on a Westminster system of government as adopted from Britain, and is a legacy of the country's colonial past. Under the current political administration there are 16 government Ministries[6] in Jamaica; these are detailed in *Appendix 3*. Consequently, there is a Minister at the helm of the MTWH, who has been politically appointed to oversee the fulfillment of the Ministry's mandates. Procedurally, the policy decisions of the Ministry require an ultimate decision by the Minister of Transport, Works and Housing; or by the Cabinet[7]. The decisions that are taken at the level of the Minister are dependent on numerous factors; among these are the sphere of influence of the decision (for example, whether it will affect other sectors or has international implications etc.), resource requirements or implications, as well as the time and context within which the decision must be taken. Essentially, at the Cabinet level, the Minister is responsible for representing all matters that falls under his portfolio.

[6] The number of Ministries may vary with the political administration and is not static.
[7] The Cabinet of the Government of Jamaica is the principal instrument of government policy. It consists of the Prime Minister, and a minimum of thirteen other Ministers of Government, who must be members of one of the two Houses of Parliament. Source: http://www.cabinet.gov.jm/

The Permanent Secretary (PS) is the highest level appointed Civil Servant within the Ministry. She is the chief accounting and accountable officer for the Ministry and advises the Minister in line with these key responsibilities, the PS must adhere to the terms of the *GoJ Accountability Framework for Senior Executive Officers* (GoJ, 2010). The heads of the agencies that come under the purview of the Ministry are accountable for their delegated portfolios and reports to the PS (also in accordance with the *GoJ Accountability Framework for Senior Executive Officers);* their relationship is formalized by the appointing instrument referred to as the *Performance Agreement* (which must be signed by the PS as well as the MTWH). In addition to being Accounting Officers, there are some instances where the heads of entities that come under the Ministry are also Accountable Officers. The framework accountability that guides the PS' actions is applied at two levels: "*The first level addresses the issue of* ***Government-Wide Accountability*** *and responds to the question of how and what instruments provide a basis for assuring that Government's policy prescriptions are clear, connected, subject to scrutiny, and translated into institutional actions… The Second level addresses the issue of* ***Individual Accountability****, and proposes means to assure that public servants, political formulators and executors of policy and action are measured, sanctioned and encouraged to perform more effectively* (GoJ, 2010)."

The actions required for effecting the mandates of the Ministry as sanctioned by the Minister and the PS are achieved through the combined efforts of the staff of the different departments, which offers a range of expertise. The process of coordinating and combining these efforts towards the desired end is the responsibility of the Chief Technical Director. At this level there are support services geared at making the process efficient, effective and transparent; these include the legal, financing and accounting, information technology and human resource and administration services.

The technical, policy, planning and monitoring functions are carried out by other Units within the Ministry. The Transport and Works Policy Units have direct responsibility for policy development, implementation and monitoring on behalf of the Ministry as well as ensuring that synergy exists between the policies and processes of the Ministry and its agencies. The Corporate Planning and Performance Monitoring Unit see to the compliance of the Ministry's entities with their reporting responsibilities to the Ministry, as well as their obligations under various legislations such as the *Public Bodies Management Act*. This Unit undertakes ongoing monitoring of the performance of the Ministry's Agencies and internal Units with a view to ensuring that the established performance standards are met.

The Technical Services Unit provides the technical support to policy decision making within the Ministry. This Unit provides expertise that facilitates engineering, environmental, planning, spatial, economic, and statistical analysis of various issues being undertaken by the Ministry. These activities also closely

support those of the Road Safety Unit (RSU), the mission of this unit is: "*to promote and foster an orderly and disciplined traffic culture that is conducive to the development of a safe traffic environment, through the conceptualization, design and dissemination of a sustained program of public information, education in schools, legislation, accident information and research"* (MTWH, 2012b). The Projects Unit within the Ministry was developed to steer and monitor the implementation of specialized transport projects and programs being undertaken by the Ministry and/or its agencies. This department has also been instrumental in channeling the Ministry's involvement in various multi-sectorial projects that have been spearheaded by the MTWH or other Ministries or entities (in both the public and private sectors).

The Ministry has over the years, sought to develop and implement various policies as well as to undertake a number of planning activities aimed at improving its overall performance. An improvement in the performance of the Ministry might be manifested in enhancements in the transport systems at large, both from an infrastructure and operations perspective. The following section provides an assessment of the major current policy and planning initiatives that have direct implications for developing a NTS as well as the potential for funding the mandated activities of the transport sector.

4.2.4 The Current Transport Policy and Planning Initiatives

The policies and planning initiatives that have been undertaken by the GoJ (either through the MTW or by other government entities) all have implications for the assessment which will feed into the strategy for the transport sector. The most germane among these will be examined in the following sections.

4.2.4.1 Policies

Over the years, project and program development within the MTWH have been carried out in the absence of established policies for streamlining and managing the growth and transformation of the transport sector. In recent times with the ongoing process to modernize the public sector, there has been a thrust to develop the necessary policies for guiding the Ministry's efforts to undertake its mandates. The GoJ, through the Cabinet Office, maintains a policy register which provides a collection of all the national policy initiatives being undertaken by the Ministries of Government. This Office has defined a national policy within this context as "*a course of action to be taken by the Government to resolve a given problem or interrelated set of problems. The policy is contained in a document which is subject to approval by the Cabinet and is tabled in the Houses of Parliament*" (Cabinet Office, 2011). The Parliamentary system is bicameral consisting of the House of Representatives which is comprised of elected members (the result of Universal Adult Suffrage), and the Senate which is comprised of members

that are elected by the Governor General[8]. The mission of Parliament is to "*provide Parliamentarians with procedural advice, administrative and support services to enable them to carry out their responsibilities as legislators in an efficient and effective manner*" (Jamaica Houses of Parliament, 2012).

The most recent GoJ Policy Register has two completed transport- related policies on the books; these are the National Road Safety Policy (2004) and the National Transport Policy (2007). The aims of these policies are as follows:

> *"National Safety Policy: Provides the basis for achievement of the vision of a safe traffic environment. It also assists in guiding and coordinating the actions of the relevant ministries and organizations toward the rational use of scarce resources and reducing duplication of effort."*
>
> *"National Transport Policy: To guide the overall development of the transport sector and to provide the framework for the development of environmentally-sound transport infrastructure and services in support of sustainable economic and social growth."*
> (Cabinet Office, 2011)

The precursor to the NTP was the National Industrial Policy (NIP) that was put in place to address concerns relating to the factors that were crippling the ability of the country to trade competitively on the global market. Emerging from the preparation of the NIP development process, transportation was acknowledged as a critical element to state trade at the time; as such it was required that a policy be developed and implemented in a manner that would enhanced industrial development and trade.

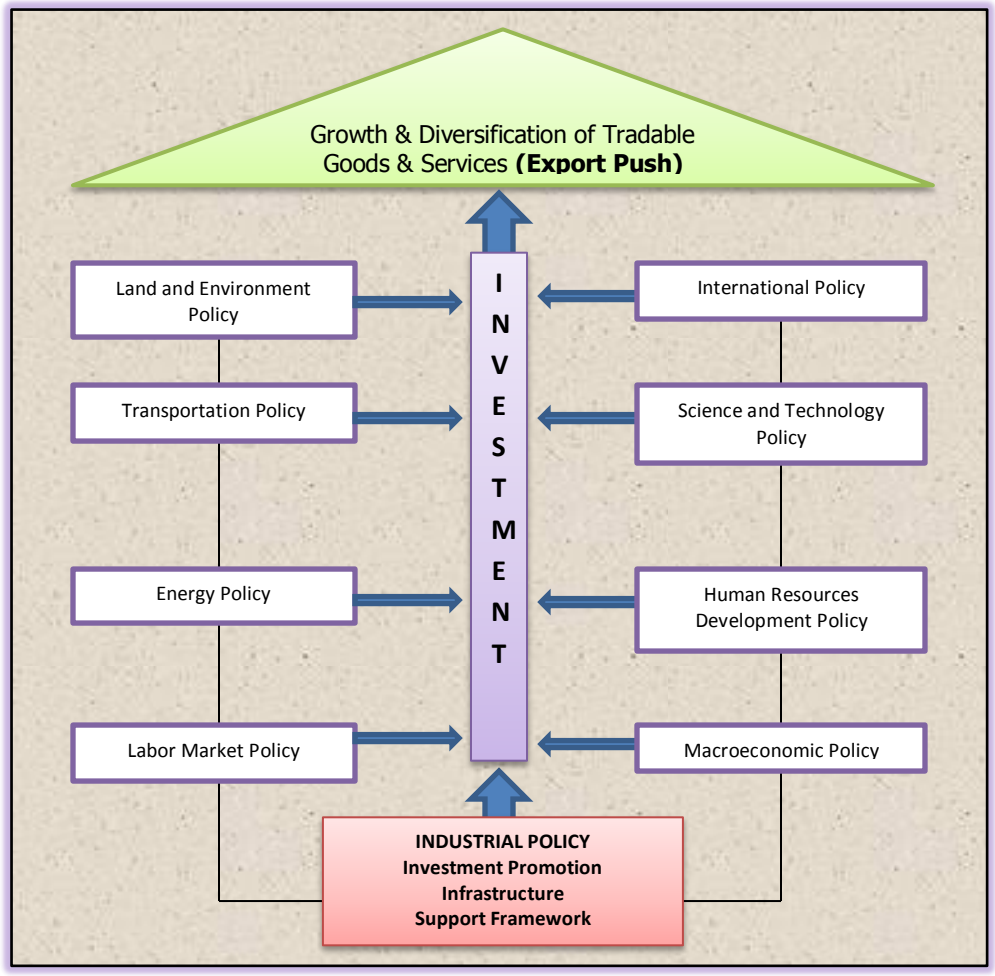
The National Industrial Policy

In 1996 a NIP was prepared for the country by Jamaica House[9], this was primarily an economic plan aimed at creating a framework that would facilitate and encourage the growth of the Jamaican Economy. It essentially provided an agenda for private investors to be able to assess the state of the environment to determine how suitable it was for investment. This framework had a planning horizon of 15 years, with an explicit attempt to incorporate an integrated and holistic approach to grow the economy. The development of physical infrastructure, human resources and science and technology was seen as a way of promoting growth and diversification by enhancing international competitiveness; this policy was to target strategic sectors. The transport sector was at the heart of this initiative because it was the view of the then government that the economy was to thrive on trade. The NIP provided the framework for the NTP (which it refers to as a Transportation Policy) among others that were cited as the key sectors as shown in *Figure 4.6.*

[8] "Under the Jamaican Constitution the Parliament of Jamaica consists of Her Majesty The Queen, the Senate and the House of Representatives. Her Majesty's representative in Jamaica is the Governor-General" (excerpt from Handbook for Parliamentarians: http://japarliament.gov.jm/attachments/702_Handbook%20for%20Parliamentarians.pdf.pdf

[9] Jamaica House is the Office of the Prime Minister

Figure 4.6: Policy Integration and Coordination



Source: Extracted from NIP (Jamaica House, 1996)

The particular focus which drove development of the transport policy under the NIP at the time was the aim of reducing the level of Government ownership in the transport sector, also acknowledging that the government cannot totally absolve itself from ownership if the sector is expected to operate efficiently and effectively. Urban transportation was recognized as a costly area from which the government could not divorce itself. In this regard the government cited the areas for intervention as:

(a) *"Subsidies to the urban transport sector to facilitate an effective movement of individuals within the country's urban regions;*

(b) *Ownership of some of the rolling stock required by the transport system, with the equipment leased to the private sector at economically viable lease rates, and*
(c) *Provision of service that enable system-wide efficiencies, such as central repair and depot facilities."* (Jamaica House, 1996)

In addition it was recognized that there needed to be a balance between the need for competition and for simultaneous organization among the suppliers of the transportation service.

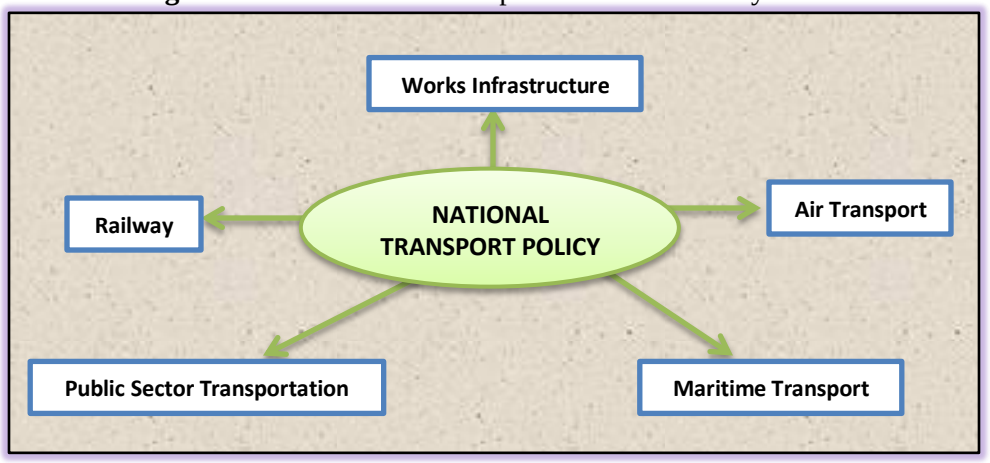
In regards to the other modes of transport, the rail was cited as an area for privatization and rehabilitation for providing both passenger and freight services. The expansion of seaports was deemed a critical strategy if the country was going to be competitively positioned for regional and global trade; this included improving the attractiveness of the country's ports as a prime transshipment hub. At the time, the policy was to have been developed to advocate for the expansion of the airports in Kingston (the capital city) and Montego Bay (the second city and tourism capital). Private sector participation was a key principle that was to guide efforts to improve these two airports as well as the development of the aerodromes around the island.

Overall, the basis for the development of the NIP was to formulate a set of responses to the range of competitive disadvantages that it was up against when compared to its global counterparts during that era.

The National Transport Policy (NTP)

The NTP is a foundation document for this research, the provisions of this policy is in dire need of an accompanying implementation strategy. As shown in *Figure 4.7* this Policy is (or should be) at the center of the transport sector as the driving factor.

Figure 4.7: Areas of the Transport Sector covered by the NTP



Source: Author 2012

The vision of the NTP is to develop a: "*sustainable, competitive, safe, accessible and environmentally friendly transport network providing world class air, land, rail and marine facilities contributing to a vibrant import, export and transshipment trade for Jamaica and the world*" (MTW, 2007). The NTP

covers all modes of transportation, including their infrastructure and operational aspects. It aims to develop guidelines that will transform the transport sector in a positive manner, making it more efficient and sustainable from the perspective of the local as well as the regional and international stakeholders and business interests. The Policy highlights the need for the sector to be streamlined and developed in an integrated manner, hence creating synergies between the transport subsectors and other sectors.

The identified reasons for the promulgating the NTP included:

- The fact that the transport sector was being development in the absence of a comprehensive, well-articulated NTP;

- The transport sector was being developed in the absence of a cohesive set of policy principles and strategic directions;

- A recognition that adequate investments cannot be obtained from the limited public resources that are available, while components of the system identified to become financially self-sustaining remain fragile; and

- While the GoJ had moved forward with institutional reforms to more effectively meet the needs of the transportation system, many of these changes are not yet complete and require further refinement (Adapted MTW, 2007).

The NTP was developed on the basis of nine principles, which were applied to each mode during the policy development process. The principles were: (1) competitiveness; (2) cost recovery; (3) economic development; (4) stakeholder consultation; (5) private sector participation; (6) environmental protection; (7) equal access to transportation; (8) energy efficiency and (9) land use conformance. In addition to the guiding principles, the policy also at the time of its development was aimed at supporting the goal of achieving sustainable growth (as articulated in the NIP); identifying the legislative and administrative adjustments required for the effective implementation of the policy; ensuring that the development of the sector was aligned to global development trends and adhered to global laws and treaties pertinent to the transport sector; providing the basis on which institutional arrangements would be configured for developing and managing the activities of the sector, also addressing the human resources requirements that would accompany these changes; providing a basis on which the effectiveness and efficiency of the transport sector can be assured for all its users and development stakeholders; and encouraging private sector investors to play a role in the GoJ's efforts to develop and improve the transport sector. However, the lack of data was an acknowledged reality that compounded the existing issues and the ability of the GoJ to address them.

The NTP specifically addressed issues relating to roads and infrastructure, rail, air and marine transport. These areas were examined within the context of a set of established priority as determined by the then MTW in 2007these priorities included:

- Encouraging greater private sector participation;
- Improving inter-agency co-ordination in intermodal transport;
- The application of a user pay principle;
- Facilitating access to subsidies for the provision of service to the vulnerable in society;
- Creating policy awareness and participation by the relevant stakeholders in the policy development process;
- Improving the integration of transport policy, planning appraisal and implementation across modes;
- Improving the integration of transport policy with land use and other critical areas;
- Increasing access to reliable, efficient and affordable transport services in rural areas;
- Ensuring that adequate regulations are in place to meet the country's treaty obligations in the areas of safety, security and environmental protection;
- Generally improving safety in the transportation environment; and
- Supporting a reduction in fuel importation according to United Nations-Economic Commission for Latin America and the Caribbean (UN-ECLAC) (2011), the transport sector accounted for a significant percentage of overall fuel used in the country, 42 per cent of the nation's oil imports in 2008[10])

Critically, the process of developing the NTP was not followed by a set of accompanying strategies which would outline how the provisions of the Policy would be implemented. This is however, a key step if the aims of the Policy are to be achieved as outlined. This research will is intended to provide a framework within which the process towards developing that NTS may be carried out, within the context of the Ministry's plans and efforts in this regard.

Other recent policy initiatives that have been considered (but not yet formalized) relates to the management and use of the transport right-of-ways, this albeit an important issue, is not currently addressed in details in the current NTP. The absence of a management structure and an official policy to guide its use has resulted in tremendous cost to the government owing to the implications this has for project implementation and general management of the rights of way especially for the rail and road networks.

[10] To put the petroleum consumption in context, 42 per cent consumption of imports by the Transport Sector in 2008 represented more than one-third of total petroleum consumption (Ministry of Mining and Energy, 2010).

4.2.4.2 Planning Initiatives

The GoJ has recognized the importance of putting in place a planning process to guide the development of the transport sector. The earlier attempts that have been made at planning were piecemeal and therefore lacked the ability to integrate and catalyze development of the sector. There have been numerous initiatives undertaken at the national as well as the Ministry levels; at the national level a *Transport Sector Plan (2009-2030)* was developed by the Planning Institute of Jamaica (PIOJ)[11] in 2009 as a part of a wider multi-sectorial national development plan for the entire island, *Vision 2030- Jamaica*.

National Level Planning: Vision 2030 Jamaica - National Development Plan: Transport Sector Plan

The *Vision 2030 Development Plan* was created out of a mandate presented to the PIOJ by the GoJ to put in place a planning framework that would guide the development of the country over the long term in its efforts to attain developed country status by the years 2030; this status was to be manifested in an advanced economy, technology, infrastructure, social and governance characteristics of the country. The plan development process included the creation of subject Task Forces to cover various aspects of the plan; these teams were developed based on the different sectorial inputs that were required. The Task Forces were also responsible for preparing sector plans that were crafted within the framework of the overall development plan. The Transport Sector Plan was developed by the Transport Task Force, which was further divided into three sub-committees: land, air and marine. The members of these teams were comprised of the key stakeholders in the transport sub-sectors; hence the process was highly inclusive and this was reflected in the output.

The Transport Sector Plan is one of 31 sector plans and is identified as one of the strategic priority areas of the Vision 2030 Jamaica – National Development Plan, mainly because of the impact it has on the overall development of the country. It is believed that countries at the level of Jamaica's current economic status benefit from the investment in infrastructure. The preparation of this plan was supported by use of the T-21 Model; this is a simulation software that enhances capacity of the planning entity to carry out a comprehensive, integrated long-term national development planning process. Also emerging out of this planning process was an Action Plan for the transport sector; attempts were made to synchronize the Transport Action Plan with the Ministry's planning and monitoring processes. The Action Plan highlights the outcomes, strategies, actions, responsible agencies and stakeholders and the time-frame associated with implementing the identified action.

A situational analysis of Jamaica's transport sector was undertaken at the subsector levels. It included a closer look at the policy and institutional framework as well as the main projects and activities with respect to the various subsectors. In regards to the land transport subsector a number of issues and

[11] The Planning Institute of Jamaica (PIOJ) is the primary planning agency for the Government of Jamaica.

challenges were highlighted, these were related to: funding; rationalization and maintenance of roadwork; planning and land transport; traffic management; road safety and access; motor vehicle Policy; intermodal transport; environmental issues; and sustainable transport. The issues and challenges that were identified from the air and marine transport perspectives were related to the existing regulatory framework and infrastructure, security, environmental issues, and domestic air transport matters.

The planning process also yielded a detailed SWOT analysis, the result of which will be presented in a later section of this chapter. The Sector Plan included an overall vision for the transport sector as well as individual vision for the subsectors, each of which was derived from the NTP or developed by the relevant subcommittee. These are shown in *Table 4.1*.

Table 4.1: Transport Sector and Subsector Vision

Transport Sector Vision	**"Sustainable competitive safe accessible and environmentally friendly transport network providing world class Air Land Rail and Marine facilities contributing to a vibrant import, export and transshipment trade for Jamaica and the world" (derived from NTP [MTW, 200])**
Land Transport Subsector Vision	A safe, efficient and sustainable system of land transport that facilitates economic and social development through the movement of people, goods and services throughout Jamaica (derived from NTP [MTW, 200])
Air Transport Subsector Vision	"An air transport system that facilitates Jamaica as a Strategic Logistics Junction" (developed by the Air Transport Sub-Committee)
Marine Transport Subsector Vision	"A safe, secure, efficient and competitive maritime transport system facilitating a strategic logistics junction, offering services of the highest standards to the local and international communities in an environmentally responsible manner" (derived from the NTP 2007 [MTW, 200]).

Source: PIOJ, 2009

The strategic vision for the transport sector as articulated in the Sector Plan is two-fold and acknowledges that in a transport system there are internal and external linkages which will facilitate the development of the sector internally and across jurisdictional borders. The main elements of the transport sector's strategic vision are the:

i. *"improvement of the domestic transport system for movement of persons, goods and services within and around Jamaica; and*
ii. *development of Jamaica as a regional, hemispheric and global transport and logistics hub or junction".* (PIOJ, 2009)

These statements highlights that transport services and infrastructure will be vital to promoting the growth of the economy over the planning period, as enhanced trade is a key feature of the development framework that is envisioned. In this regard the thrust to position Jamaica as a major logistics hub in the region is seen as a significant step in increasing its level of competitiveness within the region and globally, hence also increasing the share of the impacted subsectors (mainly air and marine sectors) to the Gross Domestic Product (GDP). The goal of transforming the country as a logistic hub is possible because of its geographical location and other endemic socio-economic features.

The envisioned state of a "developed Jamaica" is assumed to have certain features in place. The Plan highlights seven main goals (and associated outcomes) that must be attained in order for the sector to be considered adequately developed. It has highlighted Medium Term Framework (MTF) that will summarize the national priorities in a 3-year plan from Financial Year 2009/2012 to Financial Year 2029/2030. This planning process also included attempts to develop indicators and targets, however, to date these have not been totally refined. The seven goals of the transport sector were identified by the PIOJ (2009) as:

1. *A sustainable road transport system that serves the economic and social needs of the country;*
2. *A country with adequate and high quality domestic and international air transport infrastructure and services;*
3. *A globally competitive and diversified maritime transport sub-sector;*
4. *A viable railway system that supports economic and social development;*
5. *Establishment of Jamaica as a major integrated multimodal logistics hub;*
6. *Comprehensive policy, legislative, regulatory and institutional framework for transport sector; and*
7. *Environmentally sustainable transport sector.*

Plan implementation is a critical aspect of the planning process. The Transport Sector Plan proposed a framework for implementing, monitoring and evaluating the plan. The Cabinet was cited as the oversight implementation body, working through the various Ministries and their agencies, and where each would be held accountable for the implementation process. It was proposed that a system of results-based monitoring be developed to improve the implementation process.

The mechanism for ensuring that there is alignment between the resource allocation to and within the entities, and the implementation of the Development Plan would be assured through the use of the MTF. In respect to the resource allocation process the Plan stipulated that:

> *"requirements to ensure resource allocation for implementation will include alignment of organizational plans in the public sector, private sector and civil society with the National Development Plan, MTF and sector plans; coherence between the various agency plans with the National Budget; rationalization of the prioritization process for public sector expenditure; and increased coordination between corporate planners, project managers and financial officers across ministries and agencies."* (PIOJ, 2009)

An evaluation and monitoring structure was proposed which would include seven major stakeholders in the process; these would include the: Houses of Parliament; Economic Development Committee of Cabinet; National Planning Council (NPC); Vision 2030 Jamaica Technical Monitoring Committee; Vision 2030 Technical Secretariat; Ministries, Departments and Agencies (MDA); and Thematic Working Groups (*Appendix 4* provides a description of the role of each body in the monitoring process). The team also cited data collection as an important component for facilitating the monitoring and evaluation processes. The latter aspects of the process, including the development of indicators and targets, still remains work-in-progress as consistent challenges are encountered in attempts to implement the provisions of the Plan within the MDAs. Notwithstanding, there is still a reporting obligation on the part of the Ministries, at different stages of the implementation process.

National Level Planning: Development of Designated Areas by the Urban Development Corporation

The Urban Development Corporation (UDC) is a quasi-government entity that is responsible for developing certain areas throughout the country that is "designated"[12] under its governing legislation (The UDC Act of 1968). The UDC was created to: "*combine the authority and resources of Government, with the expertise and dynamism of the private sector, supported by appropriate legislative powers…the UDC manages the Tax Incentive Program (TIP) for Urban Renewal, which aims to stimulate urban renewal by revitalizing historic center and providing opportunities for private capital stakeholders to participate in the re-development of blighted areas" (UDC, 2012).*

The UDC has development areas on the Kingston Waterfront, Hellshire, Caymanas, Ocho Rios, Montego Bay and Negril. Although the UDC is not directly involved in transport project and program developments, the nature of their activities directly impact the requirements for transport infrastructure and services. Consequently, the planning efforts of the UDC should be coordinated with the MTWH's policies and programs.

Ministry Level Planning

The Ministry has a number of procedures in place that involves the planning and implementation of various projects and programs. Some of these procedures were initiated but were not continued on a regular basis. The Ministry also has a general directive to ensure that the preparation of all regional,

[12] "designated area" means any area of land owned by the Corporation or to be acquired by the Corporation designated under section 14

national, sector or urban plans are aligned with the provisions of the NTP and NTS (which was never developed). In the past, the Ministry also developed a number of "Five-Year Development Infrastructure Programs," but without a clear indication of how the projects included would be implemented in a strategic manner within the broader context of the transport sector.

The Ministry is mandated by the Public Bodies Management Act (MoFP, 2001) to prepare annual Corporate Plans. Section 7(1) of this said Act stipulates that: "*Every board shall, not later that the 1st day of January in each year, deliver to the responsible Minister (and a copy thereof to the Minister) a draft corporate plan in accordance with regulations made hereunder*" (MoFP, 2001). The Corporate Plan among other things articulates the MTWH's policy priorities, which in 2011 (under the previous political administration) were to:

1. provide environmentally sound infrastructure and services supporting economic growth;
2. facilitate the growth and development of the construction industry;
3. provide an enabling environment and infrastructure to ensure the orderly and efficient use of Rights of Way; and
4. ensure the safety of the motoring public and pedestrians who utilize the roads.

In its 2011-2014 Corporate Plan, the Ministry also proposed a number of high level strategies through which it would aim to achieve the identified policy priorities; these are outline in *Table 4.2*. It should be noted however, that with the change in political administration in December 2011, the Ministry has been making adjustments to these priority areas that will reflect the policy direction of the current political administration. The desired outcomes from the implementation of the Ministry's policy priorities includes the:

- expansion and rationalization of land transport infrastructure and services;
- development of a modernized transport system;
- expansion of domestic and international air transport infrastructure and services;
- expansion and diversification of maritime infrastructure and services; and
- development of Jamaica as a regional logistics hub with multimodal transport linkages

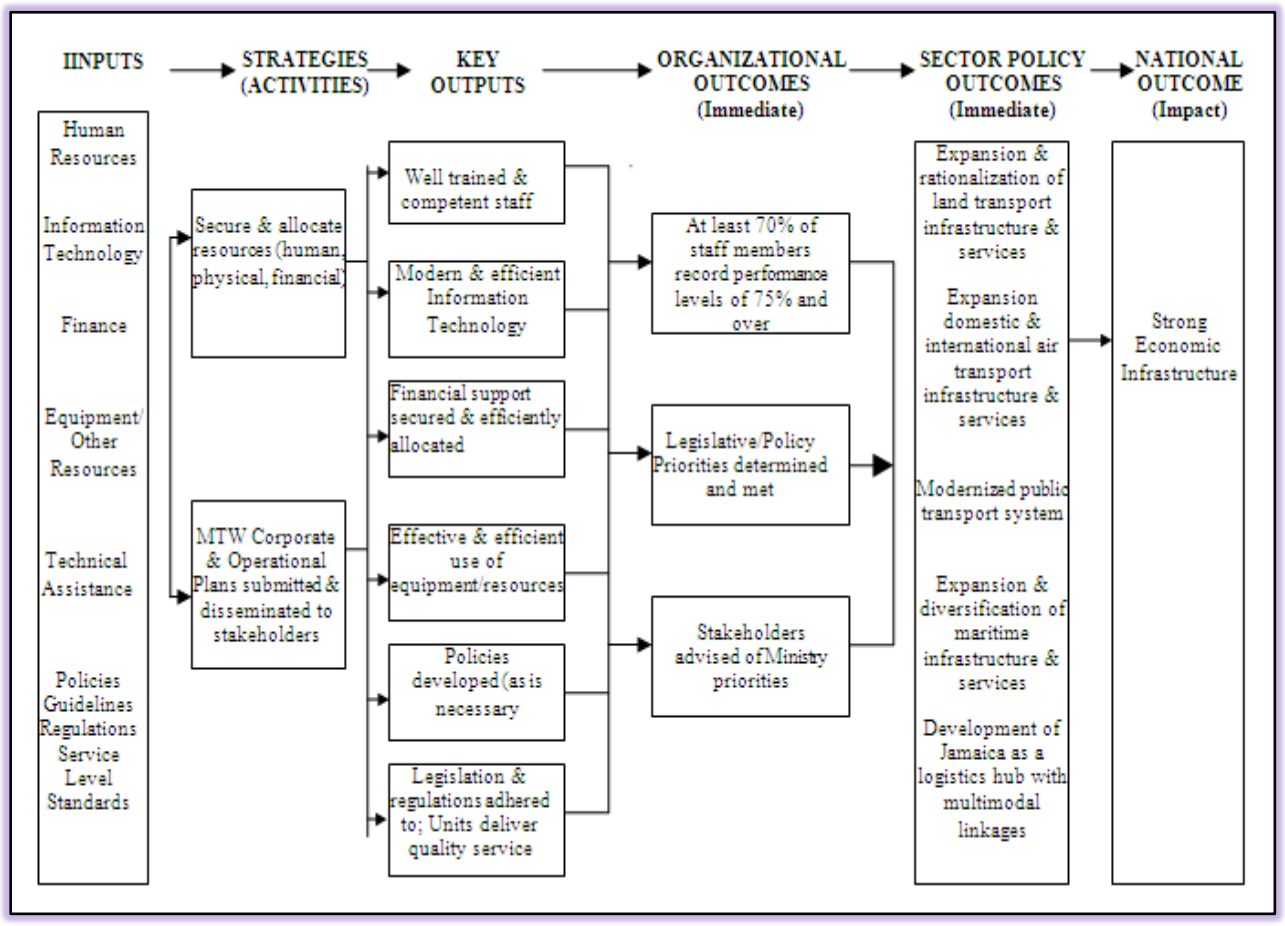
Table 4.2: Strategic Objectives for Achieving Policy Priorities

STRATEGIC OBJECTIVES	DESCRIPTION
A	Ensure the provision of a linked, modern, sustainable transport infrastructure that fully supports economic and social development.
B	Ensure that quality, coordinated, integrated and efficient transport services are provided that meet the needs of transporters and passengers.
C	Ensure that adequate regulations are in place and are followed so that the transport of people and goods meet national and international safety and environmental standards.
D	Ensure that architectural, engineering and technical works and services are conducted to specified standards and procedures so that work is done safely and efficiently and to a uniformly high quality.
E	Recruit and retain highly developed and motivated staff that can formulate, monitor and evaluate policy and plans and provide advice on transport and works issues, utilizing efficient management information systems.

Source: Extracted, MTWH Strategic Business Plan 2011-2014; MTWH, 2011

The Corporate Plan also includes performance indicators that were developed to assess the Ministry's (and Agencies') performance in relation to the established outcomes. An important component of plan implementation is the availability of the requisite funding; a medium term expenditure breakdown for the current period and a projection for two future years are also included in the Corporate Plan. The Ministry has developed a map which illustrates the logical sequence for achieving its policies through the implementation of a range of projects and programs as illustrated in *Figure 4.8*. Whereas this framework has provided guidance for achieving the Ministry's mandates more detailed and integrated strategies are required to enhance the process.

Figure 4.8: Illustration of how the Ministry currently achieves its Outcomes



Source: Extracted, MTWH Strategic Business Plan 2011-2014; MTWH, 2011

The details of the Corporate Plan reports on the actual activities of the Ministry regarding the tasks required for achieving the desired outcomes, it also illustrates the actions that are required by the GoJ if targets for the planning period being are to be realized.

The Ministry's Corporate Plan incorporates a summarized version of the corporate/ business plans that are submitted to the Ministry by its entities. The general strategic outcomes as articulated by the entities are shown in *Appendix 5*. Monitoring and evaluation are included as steps in the planning process. Monitoring requires that there certain critical elements be tracked in order to evaluate the progress that have been made. The evaluation of the progress of program/ policy initiatives outlined in the Corporate Plan also requires a methodical collection of information on these initiatives to determine if there is need to make any adjustments to the established parameters in an effort to improve the chances of realizing the outcomes. Essentially, the Ministry identifies four stages in its program/ policy cycle where evaluation is carried out:

- *"Initial (ex-ante), which is undertaken at the commencement of the programme/policy initiative, its main purpose being to focus on its relevance;*
- *Mid-term evaluation will focus on the relevance, effectiveness and efficiency of the programme/policy initiative;*
- *Terminal or complete evaluation is undertaken at the completion of the programme/policy implementation and it focuses on the effectiveness and sustainability of the programme/policy initiative; and*
- *Impact or ex-post evaluation is usually undertaken 3 – 5 years after the completion of the programme/policy initiative and it focuses on the impact and sustainability"* (MTWH, 2011).

Currently, the Corporate Plan forms the basis for a rolling 5-Year Infrastructure Development Plans that is prepared by the Ministry (although not on a consistent basis).

MTW Units and Individual Officer Work Plan

Under the PSMP, the renewed thrust of empowering the staff within the MTWH and other government entities was to improve the extent to which they meet and/or surpass their planned targets. As a result, annual Unit Work Plans are prepared in-keeping with the Ministry's mandates and policy directions. The plan stipulates how the objectives of the Ministry will be attained, the responsible Officer, the stipulated time-frame, and the required resources. These work activities are further disaggregated through the annual individual Officers' Work Plans, which makes each Officer responsible for carrying out specific activities that contributes to overall achievement of the Ministry's mandates. Over the years, however, the Ministry continues to make improvement to its work planning process which very often has recurring work plan items that remains outstanding for various reasons. This latter situation is impacted by the Ministry's priorities, which may vary from time to time, and that may or may not have filtered down to the individual work plans. These work plans essentially provide a mechanism for coordinating the overall plans and priorities of the Ministry with the day-to-day activities of its Officers, a process that if implemented effectively can and will enhance the Ministry's overall performance and efficiency.

4.3 Current Approaches to Financing the Transport Sector in Jamaica

Policy development and planning are very important activities that are geared at advancing the transport sector; more important however, is the implementation process. These processes are affected by, and in turn affect the availability and allocation of financial resources within the transport sector. There are consistent requirements for a continuously increasing amount of funding for planned and unplanned activities within the sector. The Ministry's mandates are implemented through various program and policy initiatives, which may be the subject of various funding mechanisms; these were examined in the following sections.

4.3.1 National Finance and Budgetary Mechanisms

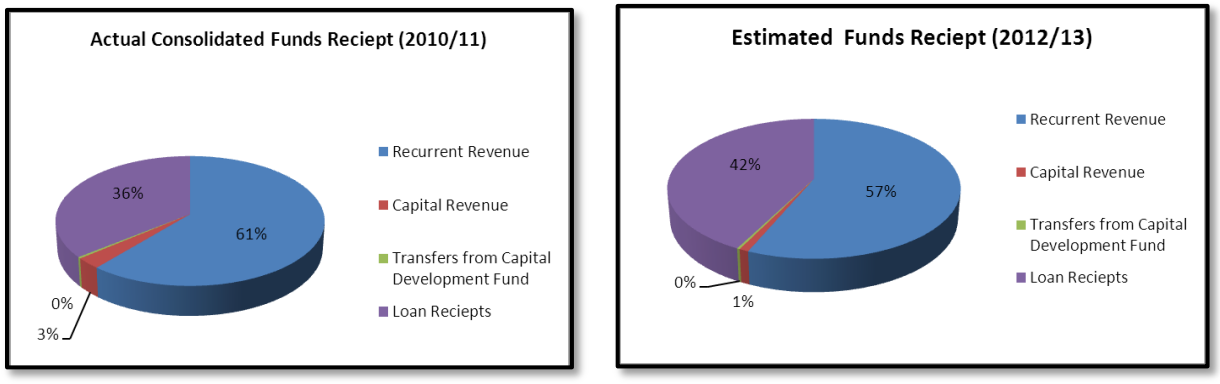
The financial planning responsibilities of the GoJ are the mandate of the MoFP. The *"[MoFP], has overall responsibility for developing the Government's fiscal and economic policy framework; collecting and allocating public revenues and playing an important role in the socio-economic development of the country in creating a society in which each citizen has every prospect of a better quality of life"* (MoFP, 2012). The sources of funds that are managed by the MoFP are generated internally and externally (i.e. to the regular government processes).

Internally-Generated Revenue and Allocations

The GoJ realizes revenue from taxes associated with: production and consumption; non-tax activities; levies and capital sources; and grants; these are all deposited to the GoJ's principal account, the *Consolidated Fund*. All government revenues and expenditures are deposited to or spent from the Consolidated Funds respectively. The monies that are pooled into this repository are put towards funding all sectors of Government; consequently a prioritized system of funds allocation is utilized at this level. The prioritized ranking is reflective of the Governments strategic priorities for the country as a whole, as well as for each sector.

Over the years the demands placed on the Consolidated Funds have far exceeded its capacity to fulfill these demands; consequently the GoJ has sought to develop and implement other strategies of buttressing its financing capabilities. As shown in *Figure 4.9* recurrent revenue (tax and non-tax) and loan receipts accounted for well over 95% of the total actual and estimated revenue for the period highlighted.

Figure 4.9: Sources of Revenue Flow into the Consolidated Funds (Actual and Estimates)



Source: Derived from MoFP, 2011

The internal sources of funding are extremely insufficient to meet the many and varied budgetary demands, hence external sources are sought.

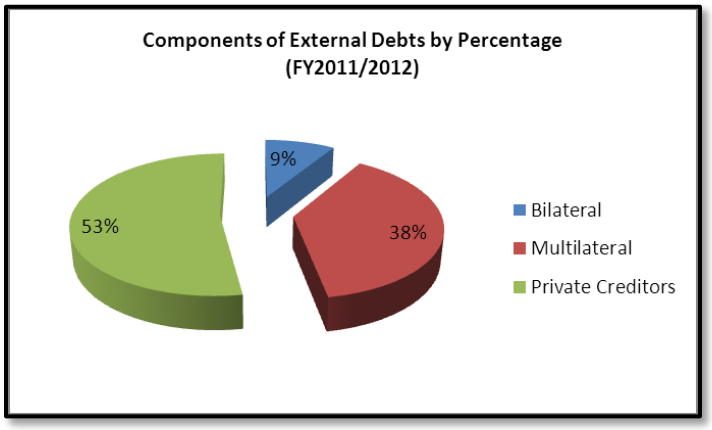
Externally-Generated Revenue and Allocations

Loans receipts have historically provided an important means of supplementing the other sources of revenue to the GoJ's Consolidated Fund. These loans are obtained through bilateral and multilateral sources from private creditors.

Bilateral and Multilateral Funding

The external funding sources are obtained from various bilateral (9%) or multilateral (38%) organizations (regional or international) and from private creditors (53%), as shown in *Figure 4.10*.

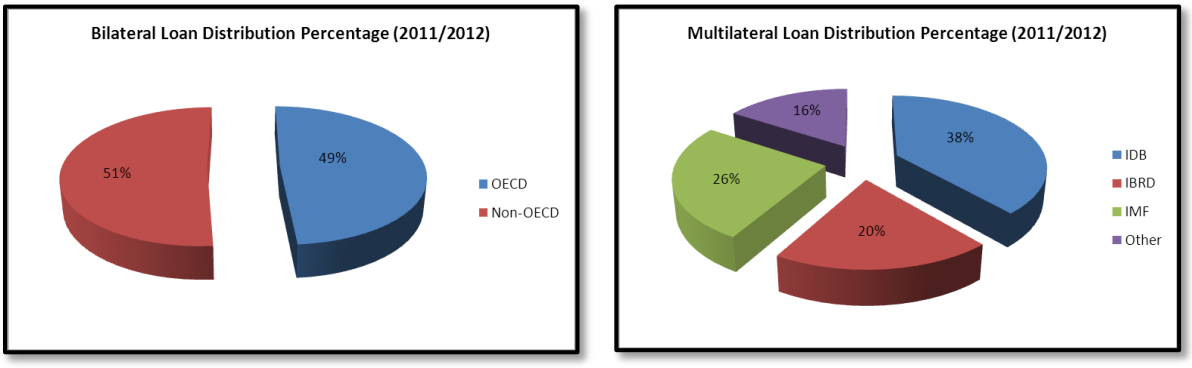
Figure 4.10: Components and Breakdown of External Debts for FY2011/ 2012



Source: Derived from MoFP, 2011

The country has had long-standing loan relationships with a number of Bilateral and Multilateral lending institutions. As shown in *Figure 4.11* there are two major Bilateral Lending agencies, the Organization for Economic Cooperation and Development (OECD) and non-OECD. Among the multi-lateral arrangements the GoJ have embarked on were those with entities such as the Inter-American Development Bank (IDB), International Bank of Reconstruction and Development (IBRD) and the International Monetary Fund (IMF) among others.

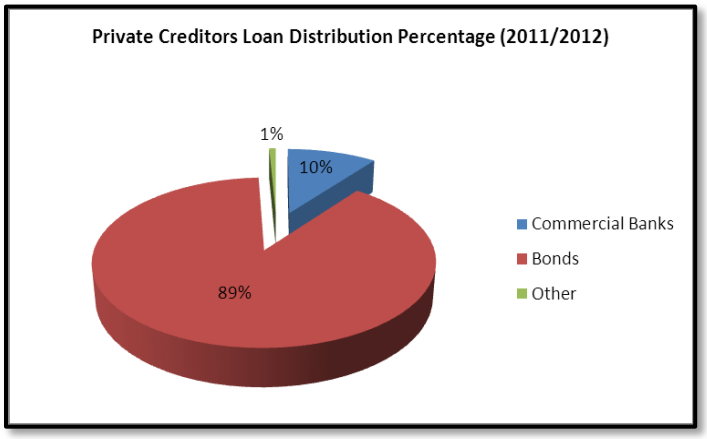
Figures 4.11: Bilateral and Multilateral Lending Proportions



Source: Derived from MoFP, 2011

In many instances, the loan arrangements with the bilateral and multilateral agencies have grant provisions that are intended to boost the GoJ entities through capacity building, technology transfer, institutional strengthening etc. Other external loan sources include loans from private creditors, among which are loans from commercial bank, and bonds as shown in *Figure 4.12*.

Figure 4.12: Private Creditor's Loan Distribution Percentage (2011/ 2012)



Source: Derived from MoFP, 2011

Public- Private Partnership

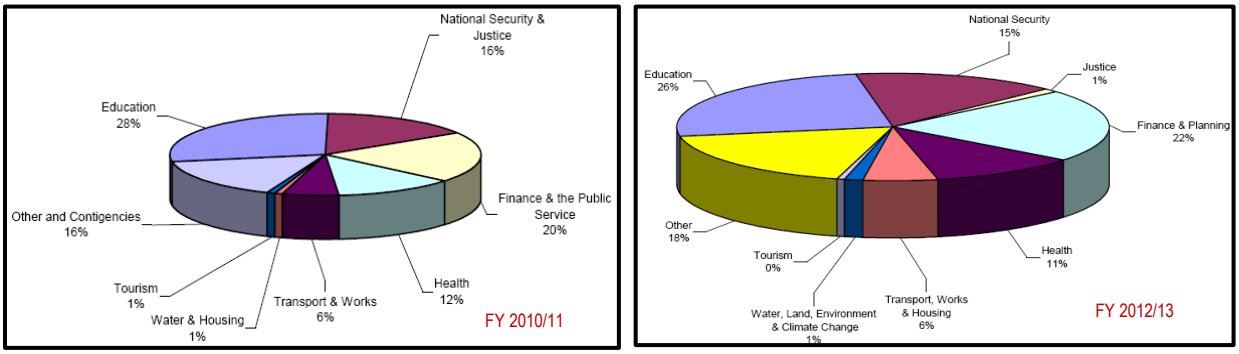
Public-Private Partnerships (PPP) is having increasing popularity as a funding mechanism for infrastructure development by the GoJ. According to the World Bank (2011): "*There is no one widely accepted definition of public-private partnership... Broadly, PPP refers to arrangements between the public and private sectors whereby part of the services or works that fall under the responsibilities of the public sector are provided by the private sector, with clear agreement on shared objectives for delivery of public infrastructure and/ or public services".* The importance of PPP's to the development of Jamaica's infrastructure is indicated by the Government's move to put in place a PPP Policy and a Secretariat charged with the responsibility of implementing this Policy. In the financial year (FY) 2012/13 Budget Presentation that was delivered by the Minister of Finance in May 2012, it was stated that, "*areas being targeted for PPPs include: infrastructure projects, such as port facilities, schools, transportation, and hospitals* …" (Jamaica Information Service [JIS], 2012). It was indicated that given the current state of Jamaica's "*limited fiscal space*", the use of PPPs among other highlighted strategies such as privatization would be explored in the subject FY and beyond.

4.3.2 The MTWH Finance and Budgetary Mechanisms

The MTWH obtains financing from a number of sources in accordance with the MoFP's legislations, regulations and policies. An annual budget is prepared by the Ministry taking into account the planned

income and expenditure for the particular FY, and includes the plans for the entities that come under the Ministry's purview. The Ministry is allotted a percentage of the Government's total budget which varies from one FY to the next. As shown in *Figure 4.13*, In the 2010/11 and 2012/13 FYs, 6% of the GoJ's net recurrent budget was accounted for by the transport sector (it should be reiterated that the portfolio responsibility of the Ministry had been expanded in the latter FY to include housing).

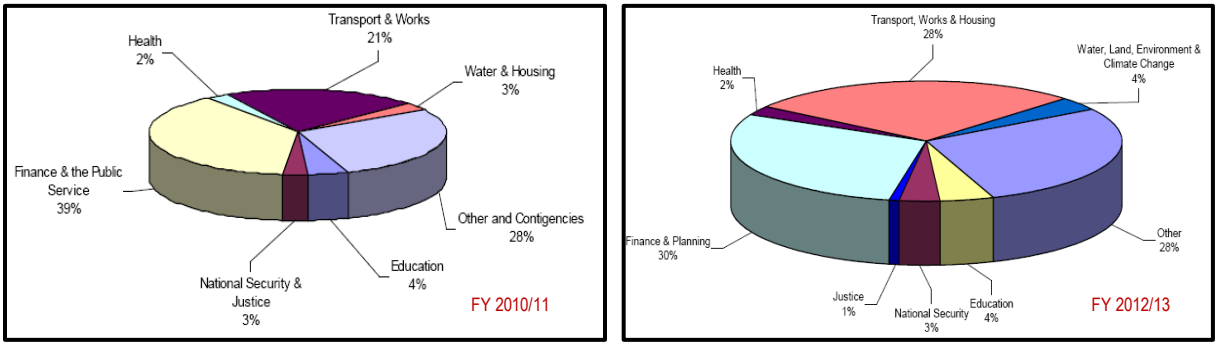
Figure 4.13: Distribution of Net Recurrent Budget Allocations (FYs 2010/11 and 2012/13)



Source: Derived from MoFP, 2010 and 2011(respectively)

The net capital expenditure for the Transport and Works Ministry in the 2010/11 FY was 21%, this was increased to 28% in the 2012/13 FY (for the expanded Ministry), as shown in *Figure 4.14*.

Figure 4.14: Distribution of Net Capital Expenditure (FYs 2010/11 and 2012/13)



Source: Derived from MoFP, 2010 and 2011(respectively)

The MTWH's annual budget is financed by revenue generated from a number of sources which includes: GoJ funds, Loans (obtained through multilateral and bilateral arrangements), grants, the MoFP and internally generated revenue. In particular, $33^{1/3}$ per cent of the proceeds from the national Motor Vehicle Registration Taxes are apportioned between the Consolidated Fund and the Road Maintenance Fund

(RMF); the RMF is a dedicated fund for road maintenance throughout the island. The RMF was established under the RMF Act of 2002; under this Act the Fund was established to manage its receipt from the motor vehicle duties as well as other sources such as loans, grants or other funds as approved by the Minister of Transport, Works and Housing. The RMF is managed and administered by a Board, which is appointed in accordance with the RMF Act. The portion of the revenue that has been previously earmarked for the RMF was subject to recent revisions, this was occasioned by a road rehabilitation and maintenance program that was put in place by the GoJ using funds obtained through a low interest loan facility of approximately U.S. $400 Million, from a financier out of China. This loan was conditional on a dedicated fund being identified for its repayment over the duration of its amortization period, and the RMF was earmarked as the dedicated fund in this respect.

4.3.3 Transport *Self- Financing* Entities Mechanisms

The MTWH has a number of self-financing entities that generate their own income through their operations and services. The mechanisms through which they are empowered to generate their own income vary with the legal instruments that established these entities. Presented in the following section is the main self- financing MTWH transport entities that have budgetary independence from the parent Ministry (MTWH).

Transport Authority: The Transport Authority (TA) is a statutory entity (a Body Corporate) that generates its own revenue from the proceeds of the five categories of public passenger vehicles license that it issues. The Authority is comprised of five *ex-officio* members and between 2 and 4 appointed members. The Licenses issued by the TA are: Route Taxi, Contract Carriage, Jamaica Urban Transit Company (JUTC) sub-licenses, Hackney Carriage and Rural Stage Carriage licenses. The TA Act of 1987 under which the Authority was established, gives it the power to charge and collect fees as prescribed; borrow funds and undertake a number of other tasks to make its operations as efficient as possible. The funds of the Authority *"shall consist of - such fees as may be paid to it; such other money as may in any manner become payable to or vest in the Authority in respect of its functions… the Authority may borrow sums required by it for meeting any of its obligations or performing its function, subject to the approval of the Minister [of Transport, Works and Housing]; subject to Consultation with the Minister of Finance regarding the amount, source and terms of loan"* (Adapted, Ministry of Justice, 1987).

National Road Operating and Constructing Company: The National Road Operating and Constructing Company (NROCC) were created in 2003 to facilitate development of Jamaica's first toll road, Highway 2000. It is a solely owned government company that was established under the Companies Act of Jamaica. As a public company NROCC transacts business on behalf of the government in respect of

Highway 2000. The Company is able to obtain loans and invest under its name, subject to the consent of the Minister of Transport, Works and Housing by extension, the Minister of Finance and Planning. In cases where the amount of the loan is in excess of what the company may be able to collateralize, it may through the MTWH seek to obtain loan guarantee from the Houses of Parliament.

Road Maintenance Fund: In 2009 the Special Consumption Tax (SCT) on fuel was increased by J$8.75 per liter. At the time, there should have been a gradual increase in the receipt from this tax being allocated to the RMF; there was a simultaneous reduction in the amount that was to have gone to the Consolidated Fund (as shown in *Table 4.3*). This planned distribution of the tax receipts however, was not strictly adhered to, a major reason being the intense demands that were being placed on the fund by the afore-mentioned loan from the Chinese firm, for activities outside of road maintenance.

Table 4.3: Planned Allotment of Receipts from Gasoline SCT within the first 3 Years of its Inception

Financial Year	Road Maintenance Fund (RMF)	Consolidated Fund
2009-10	20% of Collections	80% of Collections
2010-11	35% of Collections	65% of Collections
2011-12	50% of Collections	50% of Collections

Source: Derived from Auditor General (Jamaica), 2012.

The SCT allotment to the RMF required that in administering the Fund, an amount equivalent to 5% of the total SCT receipts be earmarked as contingency funds that would provide funding for road rehabilitation in the case of natural disasters (the road infrastructure is especially often badly battered during the hurricane season and the rainy months).

Airports Authority of Jamaica: the Airports Authority of Jamaica (AAJ) was established as a body corporate by an Act of 1974, which was subsequently revised in 2004 (the AAJ Act). The AAJ earns revenue from the functions that it is empowered to discharge under the legislation. Under Jamaica's Interpretation Act (1973), a body corporate has the power to enter into contracts with its corporate name as an individual would. The AAJ Act, Section 10 (1) states that: *"It shall be the duty of the Authority so to conduct the affairs of the Authority as to ensure that, so far as practicable, the annual revenues of the Authority are, taking one financial year with the other, sufficient to meet all charges properly chargeable to revenue and the establishment of reserves necessary for its operations"* (Ministry of Justice [MoJ], 2012a). Section 12(1) of the AAJ Act also states that the Authority may borrow any funds that may be

required to facilitate its effective and efficient discharge of its duties and obligations (subject to the approval of the MTWH and MoFP).

Aeronautical Telecommunications Limited: The Aeronautical Telecommunications Limited (AEROTEL) is a government-owned company that was established by a Cabinet Decision in 1978 to provide a range of engineering and telecommunications services on behalf of the GoJ. In 1998, AEROTEL became a subsidiary of the Civil Aviation Authority (CAA), in an effort to increase the efficiency at which both entities were operating; consequently this entity is bound by the CAA Act of 1995. AEROTEL offers services to different airport facilities and other stakeholders in accordance with the standards established by the International Civil Aviation Organization (ICAO); and these activities form the bases for the revenue generated by AEROTEL.

Port Authority of Jamaica: The Port Authority of Jamaica is a statutory corporation that was created in 1972. This entity was established to develop and regulate port facilities throughout Jamaica. The PAJ generate its revenue from fees and charges associated with the activities that it has been mandated to undertake. Over the years, this has been one of the Ministry's most profitable entities; for example, in 2009, the Port Authority showed an operating surplus of J$3.92 billion[13] and a final surplus of J$1.83 billion (Jamaica Observer, 2012a).

Maritime Authority of Jamaica: The Maritime Authority of Jamaica (MAJ) was established under the Shipping Act of 1998 as a statutory government body, with the primary mandate for matters relating to Jamaica's maritime sector, including the implementation of national a National Ship Registry. According to the Shipping Act the functions of the MAJ is to "*pursue the development of shipping and to regulate matters relating to merchant shipping and seafarers" (MoJ, 2012b)*. In discharging these responsibilities the MAJ undertakes the following functions: administer the registration of ships; regulate the certification of seafarers; regulate the safety of shipping in regards to the construction of ships and navigation; administer policy for the development of shipping in general; inspect ships for the purposes of maritime safety and prevention of marine pollution; establish maritime training and safety standards; and make enquiries as to shipwrecks or other casualties affecting ships, or as to charges of incompetence or misconduct on the part of seafarers in relation to such casualties. The MAJ collects fees and duties associated with its responsibilities. The entity is also granted powers to obtain loans under the Act, but must first receive the approval of the Minister of Transport, Works and Housing.

Jamaica Ultimate Tire Company: The Jamaica Ultimate Tire Company Limited (JUTC2) is a subsidiary company of the state owned and operated Jamaica Urban Transit Company (JUTC1); it was created in

[13] In 2009 the value of the currency was *U.S.$1~ J$88.5*

2001 in an effort to reduce the cost that was being incurred by the GoJ for maintaining the tires used by the JUTC1 bus fleet. The JUTC2 have since extended its services to other government entities and the general public. The Company currently undertake tire-retreading, new tire sale, tire repairs, vehicle alignment and wheel balancing. As a subsidiary company of the GoJ, the JUTC2 must generate its own revenue to sustain its operations.

Caribbean Maritime Institute: The Caribbean Maritime Institute (CMI) was established as a body corporate by the CMI Act of 1993. The function of the Institute is to provide training associated with sea and land based aspects of the maritime industry. According to the CMI Act (MoJ, 2012c): "*the funds and resources of the Institute shall consist of- (a) such sums as may be provided annually for the purpose in the Estimates of Revenue and Expenditure of the Island; (b) such sums as may be contributed by the Port Authority and the Shipping Association of Jamaica; (c) fees paid by students of the Institute; (d) all sums which the Institute is authorized to collect under this Act; (e) such sums as may be contributed by any regional or international body; (f) all other sums or property which may in any manner become payable to or vested in the Institute in respect of any matter incidental to its functions*". The Institute generates revenue associated with its functions; in addition, subject to the approval of the Minister of Transport and the Minister of Finance, it may borrow funds to assist in effectively discharging its mandate. The CMI was also granted the power to invest any monies that are not immediately required for its use.

Jamaica Civil Aviation Authority: The Jamaica Civil Aviation Authority (JCAA) is a statutory body under the MTWH. This entity was established under the JCAA Act of 1995 but however became operational in 1996. According to the JCAA Act, the funds of the Civil Aviation Authority may be derived from a number of sources; it states that: "*the funds and resources of the Authority shall consist of - (a) such sums as may be provided by Parliament for the Authority in the Estimates of Revenue and Expenditure; (b) such sums as may be allocated from time to time to the Authority from loan funds; (c) moneys earned or arising from any property, investments, mortgages and debentures acquired by or vested in the Authority; (d) any property, mortgages, debentures, or investments acquired by or vested in the Authority; (e) sums borrowed by the Authority for the purpose of meeting any of its obligations or discharging any of its functions; (f) revenues from charges imposed by the Authority for use of any facility or services provided by it; (g) all other sums or property which may in any manner become payable to or vested in the Authority in respect of any matter incidental to its powers and duties.*" In addition, the JCAA may borrow funds in keeping with its requirements to discharge its functions, and it may also receive advances, grants and guarantees in respect of funds it borrowed. Under the Act, it is required that the JCAA establish a reserve fund to be applied strictly for the purposes of this body.

The JCAA is also empowered by the Act to invest in securities as approved by the Ministers of the transport and Finance ministries; the Authority may also with the approval of the appropriate minister, opt to trade these security instruments.

4.3.4. Operational Planning and Budgeting

All the entities that come under the purview of MTWH are required under the Public Bodies Management and Accountability Act (PBMAA) to prepare corporate plans which form the basis for the operational plans and the budgets that are subsequently prepared and submitted to the MTWH on an annual basis. These instruments provide an indication of the plans and direction of the entities; it is however, the responsibility of the MTWH to coalesce these plans from the entities into a framework from which one can obtain an indication of the extent to which the NTP is being implemented as evidenced by the plans and budgets. Ideally, this would allow for an assessment of the level of intermodal and cross-sectorial collaboration among the entities, the potential of such a framework is yet to be deliberately capitalized on, on an annual and structured basis.

4.4 A Critical Analysis of Jamaica's Transport Sector

The state of Jamaica's transport sector is a direct result of the systems and structures that are in place within the sector itself, as well as the position it assumes within the context of the wider government, in relation to other sectors. This section of the research will present various perspectives on Jamaica's transport sector including the strengths, weaknesses, opportunities and treats; the impact of politics on the planning process; the role of the transport sector on the development process, trends in the local transport sector and the favorability of the sector to act as a development catalyst.

4.4.1 The Transport Sector- A Modal Assessment

An assessment of the different modes of transportation in Jamaica on their own merit, and from the perspective of the interactions among them must be a critical part of the NTS development process. The roads, rail, air and maritime transportation are all important to facilitating the country's overall growth and development. Over the years there have been ongoing programs by the GoJ, that are aimed at developing an extensive highway network to provides access to all areas of the island in a timely manner. These road projects have been primarily undertaken in phases which are prioritized based on different parameters (for example the anticipated economic impact of the project, other development activities planned or existing in the areas for which the project is planned, among others). In addition to the development of a new highway network to link with roads in other parts of the island, there are also ongoing road rehabilitation and repair programs which have targeted other classes of roads (parochial,

arterials, connectors, farm roads, housing scheme roads etc.) island wide.

Jamaica's railway network has not been operating at its full capacity for a number of years, as a significant portion of the rail infrastructure has fallen into disrepair. Today, only sections of the railway are in operation and are used mainly by the bauxite sector. The costs of repairing and maintaining the rail network and its operations are exorbitant and have remained a constant challenge for the GoJ, notwithstanding the potential of the rail to enhance the efficiency of Jamaica's overall transportation network.

The GOJ has undertaken numerous projects towards developing the air and marine sectors. These more than other modes of transportation, have vast implications for international trade and travel and vice versa. Consequently, the plans that guide their development are crafted with cognizance for the need to develop the air and marine transport infrastructure in a manner that makes it more competitive on the global arena.

The integration of the different modal transport operations and linkages among the infrastructure is an area that requires a significant amount of work to further boost the efficiency of the island's transport network, and by extension Jamaica's global economic competitiveness. A NTS provides an ideal instrument for visioning the integrated modal possibilities for the transport sector and how the vision might be achieved. The strategies to be developed will require a comprehensive assessment of each transport mode at one level and their integration at another level.

4.4.2 Findings of a SWOT Analysis of Jamaica's Transport Sector

An effective planning exercise for the transport sector should ideally be pivoted on the agreed weakness of and threats to the sector, with a view to building on the existing strengths and harnessing its potential through the vast opportunities it provides. A comprehensive SWOT analysis was undertaken during the PIOJ national planning exercise. The strengths and weaknesses of the sector were revealed from an internal assessment, while the opportunities and threats were evaluated from the perspective of the state of the country relative to the wider global community. *Table 4.4* provides a synopsis of the dimensions that were assessed for the overall transport sector in the SWOT analysis (*Appendix 6*) provides a more detailed analysis by transport modes)

Table 4.4: SWOT Analysis of Jamaica's Transport Sector

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
	Strengths	Weakness	Opportunities	Threats
LOCATION	Geographic location of Jamaica is asset for marine and air transport sub-sectors	Poor strategic route development plan to utilize Jamaica's location in the air sector	The potential for establishment of Jamaica as a major logistics junction for land, air and marine transport sub-sectors	Small islands are particularly vulnerable to climate change Location in region prone to natural hazards including hurricanes
FACILITATION	Jamaica is a world brand tourist and shipping location Facilitation convention for maritime cargo to be signed	Highly bureaucratic systems Poor quality service to transport sector by some public service entities Complicated fee structure Tedious immigration and customs procedures	Existence of best practices for transport sector in other countries that may be applied to Jamaica	Competition from other countries in the region in provision of transport services
ECONOMIC	Performance and growth of maritime subsector	High costs of doing business in transport sector High energy costs and dependence on imported petroleum	Continued interest of private sector for investment in sector Development of South- South trade	Rising capital and operating costs Global economic downturn which may reduce the demand for transport services
MODERNIZATION	All transport sub-sectors are have Modernized elements	Lack of adequate investment	Availability of modern technology to establish a more efficient and financially beneficial sector	Rising capital and operating costs
FACILITIES	The marine and air facilities are at globally high standards	Existing facilities do not have the needed capacity for projected growth	Potential growth of the sector provides basis for establishing responsive infrastructure	Competing destinations for investment in transport facilities
EDUCATION AND HUMAN RESOURCES	Jamaica has a number of technical educational institutions including Caribbean Maritime Institute • Jamaica has the largest English speaking workforce in the	Relatively weak consultation culture • Lack of adequate multi-lingual skills • People are not being adequately trained for the job market in transport sector	Examples of consultative culture and integrated approaches to human resource development which can be applied to Jamaica	Brain drain of skilled persons including from transport sector

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
	Strengths	Weakness	Opportunities	Threats
	region			
REGULATION	Existence of established regulatory agencies	Regulatory standards not good across all sectors	Opportunity to integrate economic, social and environmental strategies through regulations	Changes in international regulatory requirements

***Source**: Extracted from Vision 2030 Jamaica- Transport Sector Plan (2009-2030); PIOJ, 2009*

The parameters used as the basis for the SWOT analysis of the transport sector were: location; facilitation; economy; modernization; facilities; education and human resources; and regulation and were decided on by the transport task force. In a comprehensive and 'stakeholder-intense' approach, the representatives of entities under the different modes identified what they deemed the key dimensions of the transport sector.

4.4.3 Impact of Politics on the Transport Planning process

In Jamaica, as in other countries, there is a direct relationship between planning and politics. Whereas the issues that confront the transport sector are assessed from a technical and policy perspective, the matter of implementation is to an extent hinged on the level of support of politically appointed individuals and/ or bodies. This situation has often resulted in a gap between plan and policy development and their actual implementation. It therefore points to the need to have the buy-in of the decision makers who are very often the political directorate. Many sources of funds within the transport sector are administered within the ambits of user agreements regardless which remain in force even with changes in the political administration.

There are two major political parties in Jamaica, the governing People's National Party (PNP) and the opposition Jamaica Labor Party (JLP). Prior to an election[14] the parties set out to campaign on their ideologies for the different sectors and the government as a whole. The instrument that is used by each party to communicate its stance on the different issues is the *Manifesto*; this provides forms the basis of the policies of whichever party forms the government after the general election. Over the years, the prominence that has been given to the transport sector has varied with each political party; in the last general election held in December 2011 there was a clear indication of these differences as depicted in the Manifestos.

[14] Elections occur in Jamaica on a five-year cycle.

The PNP's Position on the Transport Sector based on the 2011 Election Manifesto

The PNP has traditionally been a political party with a primary focus on social programs and reforms. There were five general areas around which the political platform was established during the 2011 election: (1) the Macro-economy and Strategies for Growth; (2) Repositioning the Economy for Growth; (3) Governance and the Creation of an Enabling Environment; (4) Social Infrastructure and Development; and (5) Physical Infrastructure, Housing and the Environment. In the Manifesto the area of physical infrastructure development received the least attention when compared to others; and further disaggregated; transportation received the least attention as a subsector to infrastructure development.

In the Manifesto, the PNP recognized the importance of a healthy infrastructure system to the country's advancement, it stated that:

> *"The improvement of national physical infrastructure is important in raising the standard of living of the population, facilitating increased investments to expand the economy; as well as, raising overall competitiveness. Recognition of this fact by previous PNP Administrations has been amply demonstrated by initiatives taken in terms of investments in water, sewerage, the road network, seaports and airport facilities".* (Jamaica Observer, 2012b)

The PNP acknowledged and vowed to continue to facilitate the role of the private sector in initiating and undertaking investments in areas that were previously seen solely as the purview of the government. Examples of such activities in the transport sector that were started many years ago the PNP were the governing parties were: the Donald Sangster International Airport, Norman Manley International Airport and Highway 2000 development and expansion projects.

The development of transport infrastructure and services were also highlighted in the manifesto. The PNP pledged to continue to pay particular attention to the development of port facilities, the timing of which was highlighted as being crucial in anticipation of the opening of the Panama Canal in 2014. The administration indicated that they would continue to invest in public transportation amidst the past challenges that have been experienced in the government's attempt to achieve this, as such, the PNP stated that they *"remain committed to the objective of providing safe and comfortable movement for ordinary Jamaicans"* (Jamaica Observer, 2012b).

Amidst the prospects that the PNP envisions for the transport sector, it highlighted a number of foreseen challenges. It stated generally that, *"despite the reality of resource constraints, the reduction of corruption and the imposition of greater transparency and efficiency would significantly increase the benefits which will accrue to the population from each dollar of capital expenditure"* (Jamaica Observer, 2012b).

The JLP's Position on the Transport Sector based on the 2011 Election Manifesto

The JLP in its manifesto indicated its commitment to the Vision 2030 Development Plan, which outlines the plans for Jamaica's physical development including transportation and other infrastructure planning and investment initiatives. The development of the maritime and logistics industry was cited as an important economic development strategy that the JLP would seek to pursue for the short and medium term; also putting in place the framework for multimodal linkages within the sector. The party highlighted that the enhancement of this sector would also be critical to providing jobs in the areas of sea-fearing, dry docking, bunkering, port facilities and transport logistics. The JLP stated that:

> *"We are committed to placing emphasis on developing the key logistics building blocks, namely: (a) Quality transport infrastructure and services; (b) World class business logistics processes and supply chain management; (c) Improved trade facilitation; and (d) Increased cooperation and collaboration among private and public entities" (*Caribbean Elections. 2012*).*

The expansion and diversification of the cruise shipping industry for facilitating new and larger cruise lines was seen as a key strategy that would require the joint efforts of the transport and tourism sectors.

In relation to other transportation infrastructure overall, the JLP stated that:

> *"the world is being transformed into a single global village, and Jamaica must be prepared and ideally positioned to take full advantage of the almost infinite volume of opportunities that are emerging. The sort of economic transformation that the country needs, must be fostered through the realignment of both the physical and organizational structures of the transport network, inclusive of arrangements for, and connectivity among, the country's roads and infrastructure; rail, sea and air transport systems"* Caribbean Elections. 2012.

In addition to infrastructure development, the JLP also pointed to the need for various administrative reforms that would enhance efficiency and effectiveness within the transport sector. Key among these was its inclination towards establishing a Single Road Authority that would serve to bring all road and public infrastructural needs under one management umbrella. The party also pointed to its continued commitment to improving to the public transportation services, by refining the service and increasing the fleet of the JUTC1 and the Montego Bay Metro Bus Company.

The position of both political parties with respect to the current state and vision for the transport sector bears some similarities in terms of the role the sectors need to play in the development process. There is however a departure in terms of the areas of focus and level of specificity provided in each manifesto.

4.4.4 Current Trends and Role of the Transport Sector in Jamaica's Development

Jamaica's transport sector is critical to the island's overall development. Over the years, policy-makers have acknowledgement that improvements to transport infrastructure and services could have a positive

impact on the economy. The reach of the transport sector transcends the national borders, it provides a gateway to global markets and hence trade opportunities. Consequently, there is a predominant focus by the GoJ on developing the air and maritime transport infrastructure, forming worldwide synergies and providing services in the global arena. Two mechanisms that have been incorporated into achieving this was the creation of a Jamaica Ship Registry in Germany and ongoing negotiations to put in place as many air services agreements[15] between Jamaica and other countries as possible.

In addition to developments in the air and maritime sectors, transport infrastructure in the land sub-sector must also be improved throughout the island; this includes the very extensive road and the rail networks. Owing to the size of the country's road network, there is intense competition in terms of deciding on the roads to be developed, rehabilitated or maintained. It was previously acknowledged by the government that the current system regarding how roads are treated must be effectively revised if efficiency and economy are to be achieved in the allocation of resources to improve the road network. The system that is currently in place includes a number of public entities being responsible for different parts of the road network, depending on the location of the road segment and how it was developed. The main responsible entities are: (1) the MTWH through the NWA has responsibility for the main road network throughout the island; (2) the Local Government, which is responsible for local and parochial roads; (3) the Ministry of Agriculture has responsibility for agricultural roads; and (4) the Ministry of Tourism has some responsibility to see the upkeep (mainly aesthetics) of roads in major tourist areas. Since the toll road (Highway 2000) was developed under a 35 years Concession Agreement, it remains the responsibility of the concessionaires until the Agreement expires, at which point it is handed over to the GoJ.

The source of funds that are dedicated to improving the road network tends to vary from one agency to the next. In 2001, the MTWH through WSP Consultants developed a Road Maintenance Master Plan which to date has not been implemented for various reason. It became clear from this exercise that there was a lack of coordination among the players in this sub-sector, and an even greater disconnect with the other sectors. One of the issues that stalled the implementation of this plan was the need to have a comprehensive road inventory and an overall system of prioritization for investment in the sector; the latter provision would be dictated by the government's position on the sector(s) that is deemed most critical for boosting national growth and development.

The railway network has not been fully operational for a number of years; the result is that the rail lines that are not being used have fallen into a state of disrepair and exorbitant sums are required for

[15] An air services agreement is *"an agreement which two nations sign to allow international commercial air transport services between their territories"*. http://en.wikipedia.org/wiki/Bilateral_air_transport_agreement

rehabilitation. A very small section of the rail line is currently being used by the bauxite companies to transfer freight. The uninterrupted right of way that exist in the rail network attests to the potential it has for reducing the transport costs associated with various industries, should the network be restored considering the time saved in freight transport translates to money saved. The GoJ has acknowledged the vast potential in the rail system, it has also made it clear that it does not have the resources required to rehabilitate the rail, as such the Government has been scouting the global market for potential investors who could restore the freight and passenger rail services, with increased focus on the former.

Transportation of the population is important to the nation's development as many people rely on various means of travel to execute their home-work trips. An efficient and affordable transit system is an important driver of economic growth; it also contributes to an improved standard of living for the economically disadvantaged among the population. An adequate transit system provides an attractive alternative to persons who use their private vehicles for their daily commute requirements. If there is an increase in the number of people using transit, it is expected that there would be a corresponding decrease in the number of cars on the road; this would help to address the problem of congestion that exists in Kingston, Montego Bay and other towns throughout the island (this would also further reduce the negative externalities of congestion). Transportation therefore has a role to play in improving the population's overall standard of living as it provides a platform for increased economic and other opportunities.

Another consideration is the impact of the sector on the natural environment. To date, although work has been done on assessing the impacts of the transportation sector on the environment, a lot still remains to be addressed. In the case of the maritime and air subsectors, there are international mandates administered through various conventions and protocols that require these sectors to operate in an environmentally responsible manner. On the land side of the transport sector, there are no strict measures in place to ensure that the operators and owners of motor vehicles are held responsible for the levels of emissions from their motor vehicles. The health of the population and natural environment is an important development indicator; this is a signal of the extent of how environmentally sustainable the activities of the sector are.

The development of new roadways also impacts the availability of lands for other development sectors. This has direct implications for the lands directly used for facilitating road developments, and secondary impacts relating to associated land uses such as parking lots and gas stations. Transportation also affects the land use and development patterns throughout the island. This is evidenced by the development of extensive road corridors like Highway 2000 and the Northern Coastal Highway (which runs from the parish of Westmoreland in the west to Portland in the East) these have opened up new areas for

development. Consequently, the access provided by these new networks have resulted in new housing developments, farming activities and development, tourism sector developments among others, in areas that were otherwise seen as unattractive and was hence remained undeveloped prior.

Amidst the development activities that continue to occur in the transport sector, the challenge of realizing its true potential is hampered by the unavailability or inadequacy of funding. Increasingly, the GoJ has been forging partnerships with the local private sector as well as regional and international lending agencies in an effort to secure funding towards development of the transport sector. This approach to financing development activities within the transport sector is somewhat restricting as it very often precludes various aspects of the sector. Transportation by its very nature is characterized by a social obligation; as a result, equity must be at the forefront of these funding arrangements. The reality dictates, however, that these loans must be repaid by the GoJ (without transferring the full costs onto the population); as a result the onus is placed on the government to secure the means of repaying the borrowed funds. In recent, times however, the user-pay principle has been incorporated into providing transport infrastructure, through the requirement of tolls to use some roadways, this concept remains yet to be explored for larger scale implementation.

The potential that the transport sector has to drive the country's development, even though acknowledged, has not received the level of attention it deserves in terms of rationally and comprehensively streamlining its activities with that of other sectors. Jamaica's position from both a local and global perspective could be made favorable if adequately leveraged by the decision-makers; this would support the national outcome for the development of strong economic infrastructure, as articulated in the Vision 2030 Development Plan. In the final analysis a critical consideration that must be made relates to the order in which development is expected to occur; essentially whether transport infrastructure will and can be developed to attract investment, or whether the influx of investment is being viewed as a catalyst for transport infrastructure development.

4.5 Linkages between the Transport and other Development Sectors

Development is a complex issue, but is often seen as being synonymous with economic growth; which may not always be accurate unless various social and equity issues are also addressed simultaneously. Within Jamaica there are a number of sectors that are considered development sectors because of their role in the strategies to grow the national economy. As mentioned in the *Vision 2030 Development Plan* these sectors include: agriculture; manufacturing; mining and quarrying; construction, the creative industries; information and communications technology (ICT); services (financial, business and distribution) and tourism.

The national development plan outlines the strategies for the development of each sector, also indicating some implications this could have for other sectors. The Vision 2030 Transport Sector Plan 2009-2030) emphasized the need to forge linkages among the different modes of transportation and integrating transport planning into sustainable regional, urban and rural planning. It also addresses the need to diversify the sources of energy that are presently used by the transport sector, and the need to reduce the contribution of the transport sector to global climate change. There was however, no deliberate strategy for establishing linkages of the transport sector with the other development sectors, although in practice there are institutional existing linkages. The absence of a strategy that formally links these sectors translates into ad hoc synergies which very often do not result in the most efficient allocation and use of resources.

Coordination among the different development sectors and integration in the decision-making process is important in ensuring that development occurs in an overall strategic manner. Capital investment promotes growth and productivity; in particular investment in the transport sector has a positive spin-off effect for most other development sectors. Although there are implications of transport sector activities for the other development sectors, not many of them currently play a role in the country's transport infrastructure development and services provision. The agriculture sector makes budgetary provisions to address farm roads, and the tourism sector often earmark funds from the Tourism Enhancement Funds (TEF) to undertake remedial and streetscaping in some of the main tourist areas such as Oho Rios and, Montego Bay and Negril. The overall reality, however, is that based on the need for financial resources in comparison to the extent of the road network requiring attention, there still remains a huge funding gap in the area. It is therefore important for these schemes to be coordinated as a part of efforts to enhance the funding environment for the transport sector.

Increased trade effectively boosts the nation's development; hence the need to integrate the plans and strategies of all modes of the transport sector with those of the other sectors is an important factor that should not be overlooked. This integrated approach, in addition to optimizing the use of resources also has the potential to identify innovative mechanisms for boosting the funding opportunities for the transport sector. When each sector can appreciate the importance of the transport for its own development, the transport sector will then be treated with a level of importance that is commensurate with its overall role in advancing the nation.

4.6 Conclusion

Jamaica's transport sector has many stakeholders that might be categorized under the different modes. It is generally accepted among them that the health of the sector is critical to the overall growth and

development of the nation. There is vast potential, which requires the necessary investment and resources to be unearthed. It is also vital that there be coordination and integration within the sector and with other critical sectors. Most importantly, the GoJ should effectively restore the thrust to develop the transport sector and place it at the forefront of the country's agenda. While the NTP outlines the direction of the sector, effectively repositioning it will require a NTS; this could act as a positive game-changer for many areas, including possibly enhancing the prospects for sector financing. A NTS, although not a panacea, has played a significant role in improving the transport sector of other jurisdictions; as such it would be prudent to garner various lessons from prior experience of other jurisdictions in order to enrich any attempt to develop a similar framework provision for Jamaica.

CHAPTER 5:

COMPARATIVE ANALYSIS

(JAMAICA AND THE U.S.A)

CHAPTER 5: COMPARATIVE ANALYSIS (JAMAICA AND THE U.S.A)

The premise of this research is to undertake a comparative analysis of the impacts that having a strategic plan in place can have on the development of the transport sector, including the manner in which it is funded. The context within which Jamaica's transport sector operates was presented in *Chapter 4*, indicating the administrative, legislative and institutional structure that forms the framework as well as highlighting some of the challenges with which the sector is faced. This chapter will provide a synopsis of the equivalent structure of the U.S.' transport sector with a view to identifying the similarities and differences in the approach of the two territories and to assess how the U.S. has utilized strategic planning as a tool towards advancing the sector, the impact that having such a plan in place has had on the sector within the U.S. Lessons will be identified that might be useful to each country from the perspective of the other. It is also intended to identify the impacts such a provision has had on financial planning within the sector.

5.1 Justification for Comparative Analysis

The U.S. has over the years embarked on strategies to develop its transport sector from a multi-sectorial perspective; to this end it has undergone a range of transition in its effort to develop and adopt measures to guide the advancement of the sector. Whereas Jamaica has also made strides in its attempts to develop the transport sector, a tremendous amount of work is still required if the vision for the sector is to come to fruition. As outlined in the previous chapter, Jamaica developed a NTP for steering the sector; however an accompanying strategy for implementing the policy was never developed. The U.S. has a more advanced transport system than Jamaica, as such, this comparative analysis is being carried out in order to identify the similarities and differences in various aspects of the transport sector in the two territories; and also to determine the lessons that might be learnt and incorporated into the strategic planning process that Jamaica will be embarking on in the future. This analysis will also aim to identify the impact that a transport strategic plan might have on optimizing the financing strategies within the transport sector.

5.2 The Administrative, Legislative and Institutional Structures of the U.S. Transport Sector

The transport sector within the U.S. at the highest level falls under the purview of the Federal Government. At this level the U.S. Department of Transportation (U.S. DOT) was established in 1966 by an act of the U.S. Congress[16] with a mission to:

> *"Serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future."* (U.S. DOT, 2012a)

[16] The **United States Congress** is the bicameral legislature of the federal government of the United States consisting of two houses: the lower house known as the House of Representative and the upper house known as the Senate (Wikipedia 2012).

The U.S. DOT is the overarching government transport body under which the various entities that carries out the mandates in respect of the different modes operate. The principal mandate of the DOT is to maintain a safe travelling environment for commuters, improve their ability to get from place to place as well as ensure that the transportation system contributes to the growth of the nation's economy. There are State DOTs which comes under the Office of the Secretary of Transportation (OST). Each State DOT and the operational entities that come under the U.S. DOT have their own administrative structure.

5.2.1 Administrative Structure of the U.S. Transport Sector

The achievements and challenges in the transport planning environment cannot be separated from the characteristics of its administrative structure. There is a stratified administrative system that fulfills the directives of the sector from the federal level of government to the local operational levels. In addition, various agencies have been developed to undertake specialized activities within the transport sector. Among the key transport entities are: the U.S. DOT Office of the Secretary of Transportation (OST), Office of the Under Secretary for Policy in the U.S. DOT, and the Metropolitan Planning Organizations (MPOs)

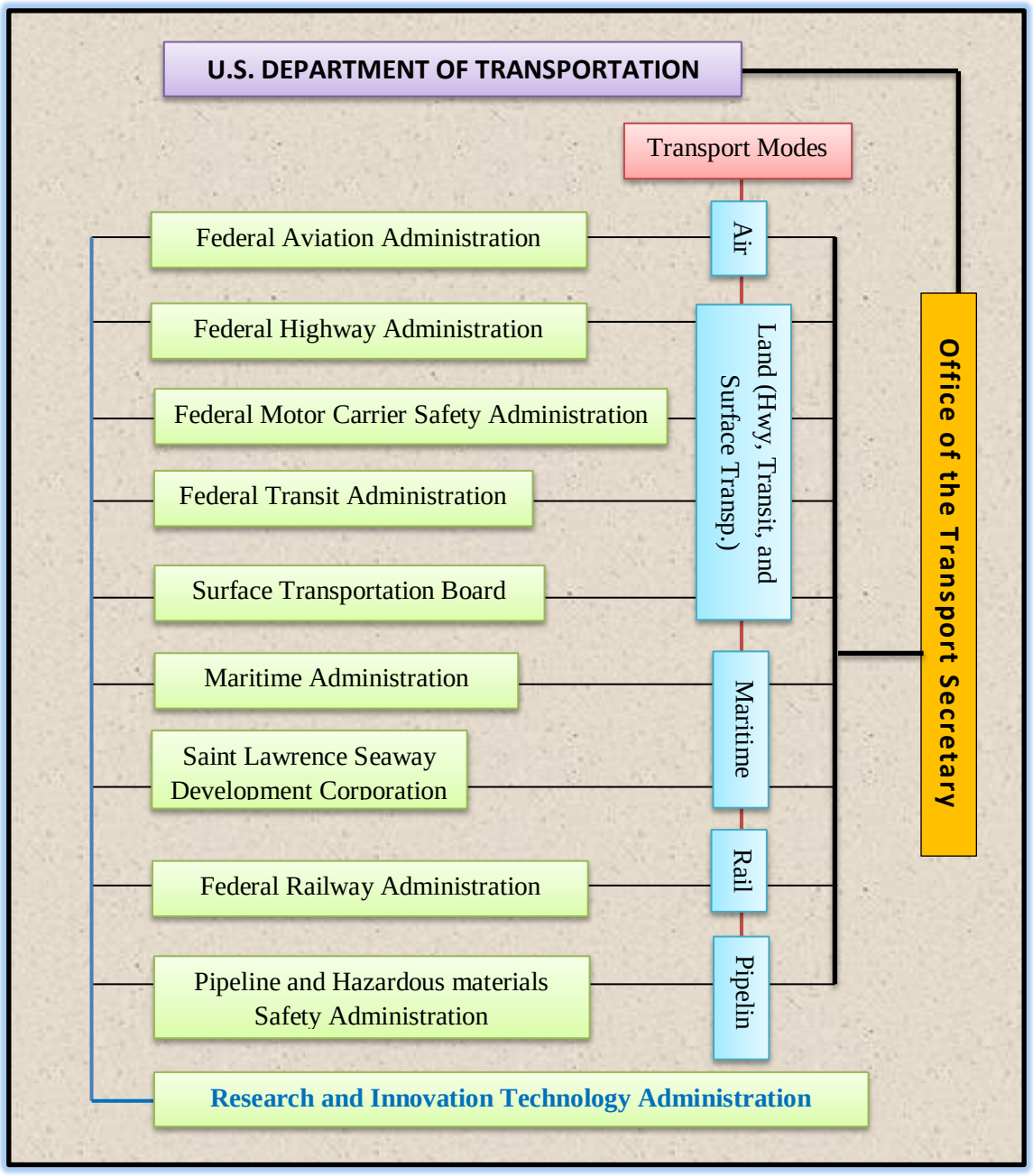
5.2.1.1 The U.S. DOT Office of the Secretary of Transportation (OST)

The OST is headed by the Secretary of Transportation who provides leadership to the DOT and is the main advisor to the President of the U.S. on all federal transportation programs- related matters. The OST is equivalent to the MTWH in Jamaica; it is responsible for developing national transportation policies and undertaking other necessary administrative activities to ensure the health and growth of the multi-modal transportation system within the U.S., and facilitating negotiations and implementation of international transport agreements. Consequently, the OST has the overarching responsibility for the following agencies, the: Federal Aviation Administration(FAA), Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), Federal Railway Administration (FRA), Federal Transit Admiration (FTA), Maritime Administration (MA), Pipeline and Hazardous materials Safety Administration (PHMSA), Research and Innovation Technology Administration (RITA), Saint Lawrence Seaway Development Corporation (SLSDC) and Surface Transportation Board (STB); as indicated in *Figure 5.1* and *Appendix 7*.

As illustrated in *Figure 5.1*, the entities that come under the purview of the OST covers transportation by all different modes: marine, air and land. This arrangement has facilitated some amount of linkages and coordination. The U.S. DOT has embraced the concept of and is in the process of adopting an open government approach to the governance of the sector; this represents their adoption of an initiated by the President of the U.S., aimed at involving all stakeholders in the processes of governance to reduce or eliminates incidents of corruption. As stipulated by the DOT:

"The DOT recognizes that the Open Government initiative is about more than adopting new tools and emerging technologies—it is about affecting real policy and internal culture change to ensure that our Department truly becomes even more transparent, participatory, and collaborative both internally and externally. Toward that end, our DOT Open Government Plan looks at the culture, policy and technology issues involved in enhancing the DOT's openness."
(U.S. DOT, 2012b)

Figure 5.1: Structure of Transportation Administration within the United States



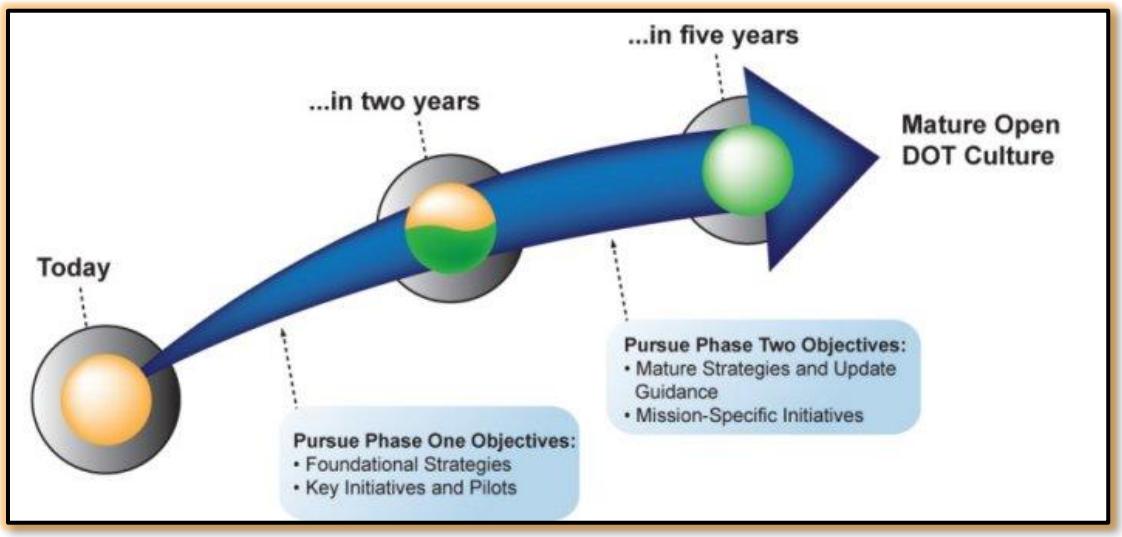
Source: Derived from U.S. DOT Website, 2013

The U.S. DOT highlighted a number of strategies that it would be utilizing towards implementing the Federal Open Government initiative these include:

- participation in rulemaking (legislation development);
- the development and release of useful data to the public, including a platform to facilitate geographic visualization by the public, of various topics;
- welcoming public comments and discussions on the DOT's Strategic Plan, the process is to allow the total feedback to be seen by the public and hence facilitate discussions on each other's comments;
- the U.S. DOT providing a platform for its employees to be more involved in the operations of the entity, including the development of programs, processes and technologies by communicating their ideas; and
- The U.S. DOT's acknowledgement of the need for, changing the existing internal process aimed at creating a new culture to lay the foundation for implementing the Open Government initiatives.

Figure 5.2 shows the DOT's targets over a five year period (starting in 2010) in its move to create a mature Open Government. This initiative is ultimately aimed at facilitating the fulfillment of the Department's objectives.

Figure 5.2: DOT's Path to an Open Government



Source: U.S. DOT, 2012b

5.2.1.2 Office of the Under Secretary for Policy

The Under Secretary in the DOT is the main advisor to the Secretary of the DOT, "*the Secretary and the Undersecretary provides leadership in the development of policies for the Department, generating*

proposals and providing advice regarding legislative and regulatory initiatives across all modes of transportation. The Under Secretary coordinates the Department's budget development and policy development functions. The Under Secretary also directs transportation policy development and works to endure that the Nation's transportation resources function as an integrated national system. By statute, the Under Secretary is third in the Department's order of succession" (U.S.DOT, 2012c).

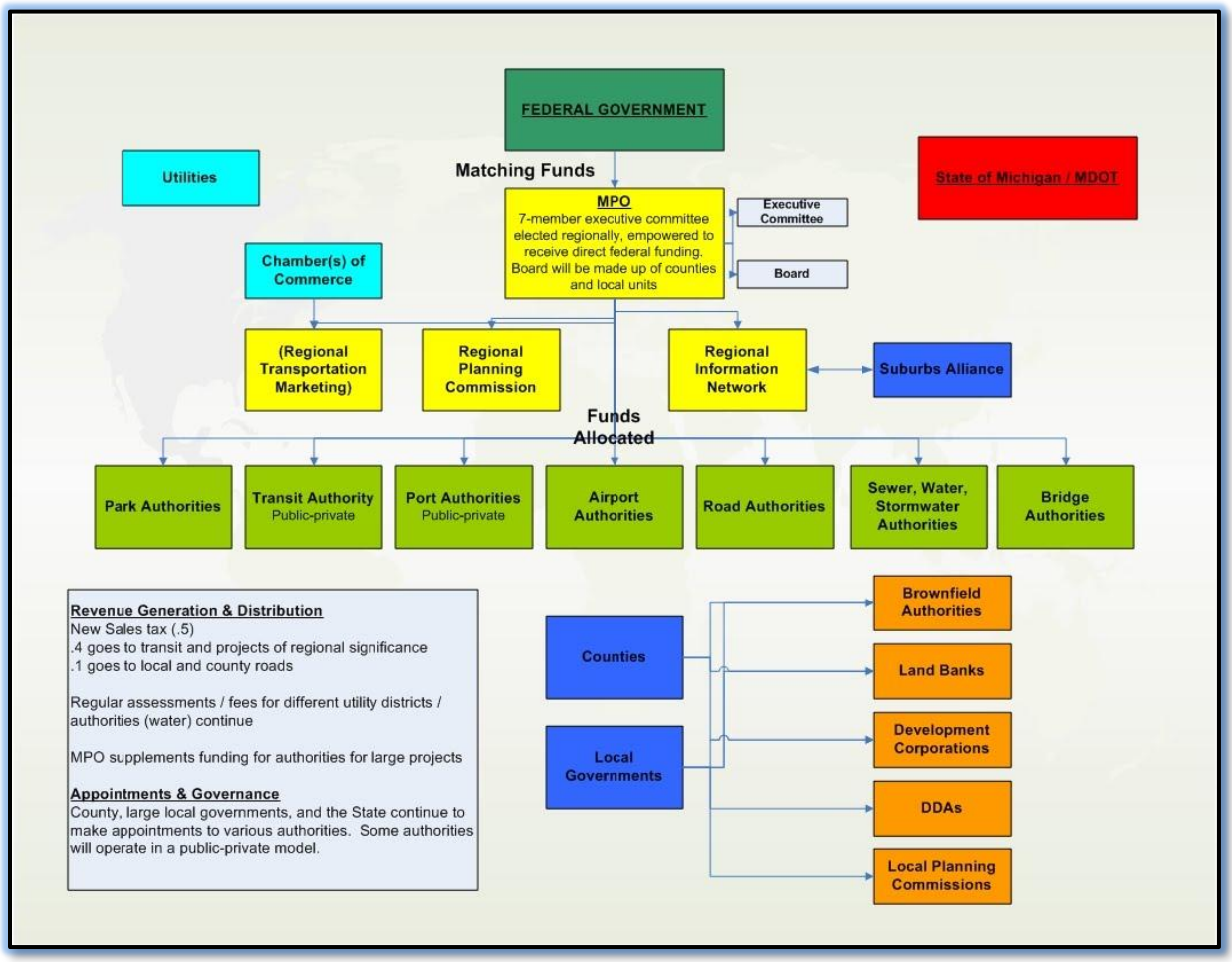
Under the purview of the Under Secretary are two officers that are charged with more specific transportation portfolio responsibilities: the Assistant Secretary for Transportation Policy and the Assistant Secretary for Aviation and International Affairs. It is the responsibility of the Assistant Secretary for Transportation Policy to recommend surface transportation policy initiatives to the Secretary of Transportation. On the other hand the Assistant Secretary for Aviation and International Affairs is responsible for advising the Secretary on matters of domestic and international concerns relating to the aviation subsector, as well as matters which pertain to international surface transportation and trade. The latter Assistant Secretary is also empowered to make decisions with respects to various matters that falls within the purview of its mandate.

5.2.1.3 The Metropolitan Planning Organizations (MPOs)

In 1962, the United States Government passed the Federal Aid Highway Act under which it was required that Metropolitan Planning Organizations (MPOs) be formed for urbanized areas that had a population in excess of 50,000. A MPO is essentially, a *"federally mandated and federally funded transportation policy-making organization in the United States that is made up of representatives from local government and governmental transportation authorities"* ("Metropolitan Planning Organization", 2012). The funding that is provided for transportation projects and programs is routed through this entity which plays a fundamental planning role. MPOs were created by Congress *"in order to ensure that existing and future expenditures of governmental funds for transportation projects and programs are based on a continuing, cooperative, and comprehensive (3-C) planning process"*.

While the structure of MPOS may vary with jurisdiction, they are all charged with the same set of responsibilities. The MPO plays a critical role in the allocation of federal and other resources for transportation investments; ensuring that a shared vision for transportation is embedded in the planning process; facilitating an assessment of the transportation future of a region and its developmental alternatives; and the facilitating the necessary collaboration in the planning process between public and private interested entities and residents. *Figure 5.3* shows an example of the structure of a MPO, Metropolitan Detroit.

Figure 5.3: Schematic of a New MPO for Metropolitan Detroit



Source: Young, 2010

The MPO's structure of governance consists of various committees and technical staff. There is an Executive or Policy Committee which is the highest level decision-making committee. This committee is made up of: elected or appointed officials from municipalities or counties (local government); representatives from the different transportation modes; Officials from various state agencies (e.g. DOT, Environmental Planning Agency); as well as representatives from the FHWA, FTA, FAA, FRA, Chambers of Commerce, among others. The Policy Committee is usually advised by technical committees that are established for this purpose. The Committees collaborate on technical matters relating to planning analysis and various projects. Although the MPO is headed by the Policy Committee which is comprised of appointed members, there is a cadre of core fixed staff that carries out the administrative functions and requirements of the MPO.

The MPO has five core functions[17], they are expected to:

a. establish and manage a fair and impartial setting for effective regional decision-making in the metropolitan area;
b. evaluate transportation alternatives, scaled to the size and complexity of the region, to the nature of its transportation issues, and to the realistically available options;
c. develop and update a fiscally constrained long-range transportation plan for the [urbanized areas] covering a planning horizon of at least twenty years;
d. develop a fiscally constrained transportation improvement program (TIP), based on the long-range transportation plan and designed to serve the [urbanized areas'] goals while using spending, regulating, operating, management, and financial tools; and
e. involve the general public and all the significantly affected sub-groups in the four essential functions previously listed. (Metropolitan Planning Organization, 2012)

The MPO also has a responsibility to ensure that the transportation plans, programs and projects conform to the Air Quality Standards as set out in the State Implementation Plan (SIP). Each State has its own implementation plan.

5.2.2 Legislative Provisions

The Federal Register is the official journal of the U.S government that contains final rules that are promulgated by the government; this register is published daily, with an annual update of the legislation. A final rule is *"a regulation that has gone through the review and public comment process and is published in official form in the Federal Register (or the equivalent State publication). Final rules are published with an effective date, as of which they have the force of law."*[18] The sectorial legislation are many and relates responsibilities of the entities that comes under the U.S. DOT, in addition there is legislation that governs matters that are pertinent to the Transportation Security Administration, Transportation Statistics Bureau and Travel and Tourism Administration.

Generally, the Federal Register is used for keeping the stakeholders abreast of the policy and legislative changes that are occurring within the transport sector. This enhances transparency in the process, in keeping with the Open Government initiative.

5.3 The U.S. DOT's National Transport Strategy

The Office of Transportation Policy (OTP) resides within the U.S. DOT and is responsible for developing the policies that outline the direction of the transport sector. Essentially, the OTP is mandated with

[17] http://en.wikipedia.org/wiki/Metropolitan_planning_organization
[18] http://www.genome.gov/15014431

"recommending overall surface transportation policy initiatives to the Secretary. The office coordinates multi-modal initiatives and processes, such as the development of DOT's proposed reauthorization language, and the coordination of the President's Executive Order on streamlining environmental reviews of transportation infrastructure" (U.S. DOT, 2012d). The Policy Office champions the preparation of various reports which are subsequently forwarded to Congress; among these is the DOT's national transport strategic plan entitled *"Transportation for a New Generation: Strategic Plan, Fiscal Year 2012-2016"*. In his message introductory message for the strategic plan the Secretary of DOT stated that the plan will address a number of issue, he stated that:

> *"Cities and towns are seeking innovative approaches to moving people and goods—in addition to our state-of-the-art highway system. The traveling public is calling for investment in transit, rail, sidewalks and bike paths, and for policies that bring affordable housing closer to good schools and quality jobs. People from across the political spectrum recognize that our transportation system must become safer, more efficient, more outcome-based, cost-effective, and more environmentally sustainable."* (U.S. DOT, 2012e)

The strategy is developed on the basis of five goals: (1) Safety, (2) State of Good Repair, (3) Economic Competitiveness, (4) Livable Communities and (5) Environmental Sustainability. One of the elements that resonate in this strategic plan was the thrust of the Obama Administration to push for the passage of the six-year surface transportation reauthorization bill. In July 2012, the President signed a bipartisan reauthorization bill, *Moving Ahead for Progress in the 21st Century (MAP-21)*, for a period of two years. This means essentially that financial resources were earmarked for funding transportation activities over the next two years; (to 2014), with a focus on improving road safety. The Department has acknowledged the need to get a six year reauthorization bill passed, as the President stated in the strategic plan, *"we need to begin work on a six-year bill to provide the long-term stability needed to rebuild our roads, bridges and transit systems and meet future demands for new roadway, transit, rail, and port infrastructure* (U.S. DOT, 2012e). The acceptance of a long term reauthorization bill is even more critical now since over the past few years there has been a decrease in income to the sector from gas taxes.

The development of the transport sector is important to the nation, not only for the immediate benefits of having a transport system in place, but because of the overall vital role it plays in its overall development. The DOT stated that, *"the Administration's surface transportation reauthorization proposal, our budget request for fiscal 2013, and this Strategic Plan constitute our roadmap to meet these new challenges. We look forward to working with the Congress and our public and private sector stakeholders to re-imagine America's transportation system—not as an end in itself, but because it is the means by which we connect with one another, grow our economy, and pursue our dreams"* (U.S. DOT, 2012e).

The U.S.DOT indicated that it is moving away from typical traditional approaches to developing and implementing transport programs; rather it is embracing transportation policy and investment from a "bottom-line" perspective. This approach sees the Department seeking to identify the strategies and policy emphasis that are expected to yield the greatest benefits in relation to the goals of the U.S. DOT's Strategic Plan. *Table 5.1* shows the prioritized goals as outlined in the strategy and the general aims of these goals.

Table 5.1: Prioritized Goals of the U.S. DOT Transport Strategic Plan

No	Prioritized Goals	Nature of these Goals
1	**Safety**	The goal is to place department-wide focus on reducing transportation-related fatalities and injuries.
2	**State of Good Repair**	Research undertaken by the Department has revealed that the conditions of major facilities such as highways, bridges, transit systems, passenger rail and airport runways are in a state of "less that good repair"; hence compromising the safety, capacity, and efficiency of the transportation system within the U.S. There will be increased programmatic emphasis and new resources aimed at improving the state of infrastructure. In addition the DOT will encourage its government and industry partners to make optimal use of existing capacity, minimize life-cycle costs and apply sound asset management principles throughout the system.
3	**Economic Competitiveness**	It is foreseen that the demand for freight and passenger transportation will more than double by 2050, the goal in this regard is to facilitate this growth through the efficient movement of passengers and freight. [The] central strategies for achieving maximum economic returns on our policies and investments include leading the development of intercity, high-speed passenger rail and a competitive air transportation system; increasing travel time reliability in freight-significant highway corridors; improving the performance of freight rail and maritime networks; advancing transportation interests in targeted markets around the world; and expanding opportunities in the transportation sector for small businesses.
4	**Livable Communities**	Fostering livable communities—places where coordinated transportation, housing, and commercial development gives people access to affordable and environmentally sustainable transportation—is a transformational policy shift for the DOT. This policy component is aimed at addressing a range of issues in an effort to illustrate how the policies and investments of the Department will be approached from a place-based perspective.
5	**Environmental Sustainability**	Whereas transportation has been deemed as crucial to the economy and securing a good quality of life, the construction, operation and maintenance of transportation systems have significant environmental impacts on water, air and natural ecosystems. The strategy addresses these challenges through fuel economy standards for cars and trucks, more environmentally sound construction and operational practices, and by expanding opportunities for shifting from less fuel-efficient modes.

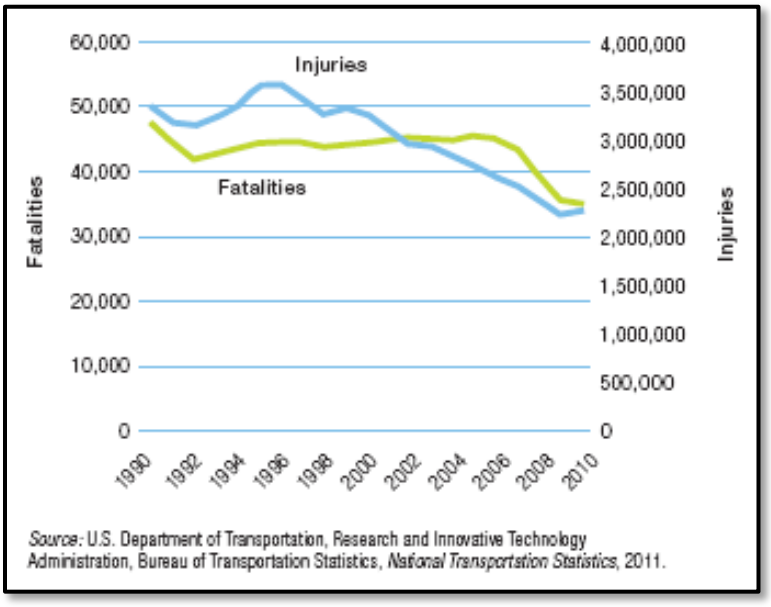
Source: Extracted U.S. DOT, 2012e

The following sections present a more detailed assessment of the prioritized goals of the U.S. DOT Transport Strategic Plan, including an analysis of how the different factors compare to Jamaica.

5.3.1 Safety

Safety plays a critical role in the transport sector; it affects all modes and has direct economic implications for the Government's expenditure in the sector. The U.S. DOT has identified a number of strategies aimed at addressing safety in the transport sector; this factor is very crucial and therefore remains at the forefront of the Department's strategies for moving the transport sector forward. The strategies that have been identified for improving the safety include maximizing the effectiveness of the regulatory authorities for the operations of all modes of transport. The DOT indicated that tremendous progress has been made in reducing transportation-related injuries and fatalities but also acknowledged that a lot still remains to be addressed in this area. The safety strategies are aimed at directing the earmarked resources *"to the highest safety risks, [bringing] program reforms to our safety mission, and [seeking] the enactment of [a]robust, six-year surface transportation reauthorization legislation"* (U.S. DOT, 2012e). As shown in *Figure 5.4*, there have been fluctuations in transport-related injuries and fatalities with an overall reduction until around 2008 when the figures slightly increased.

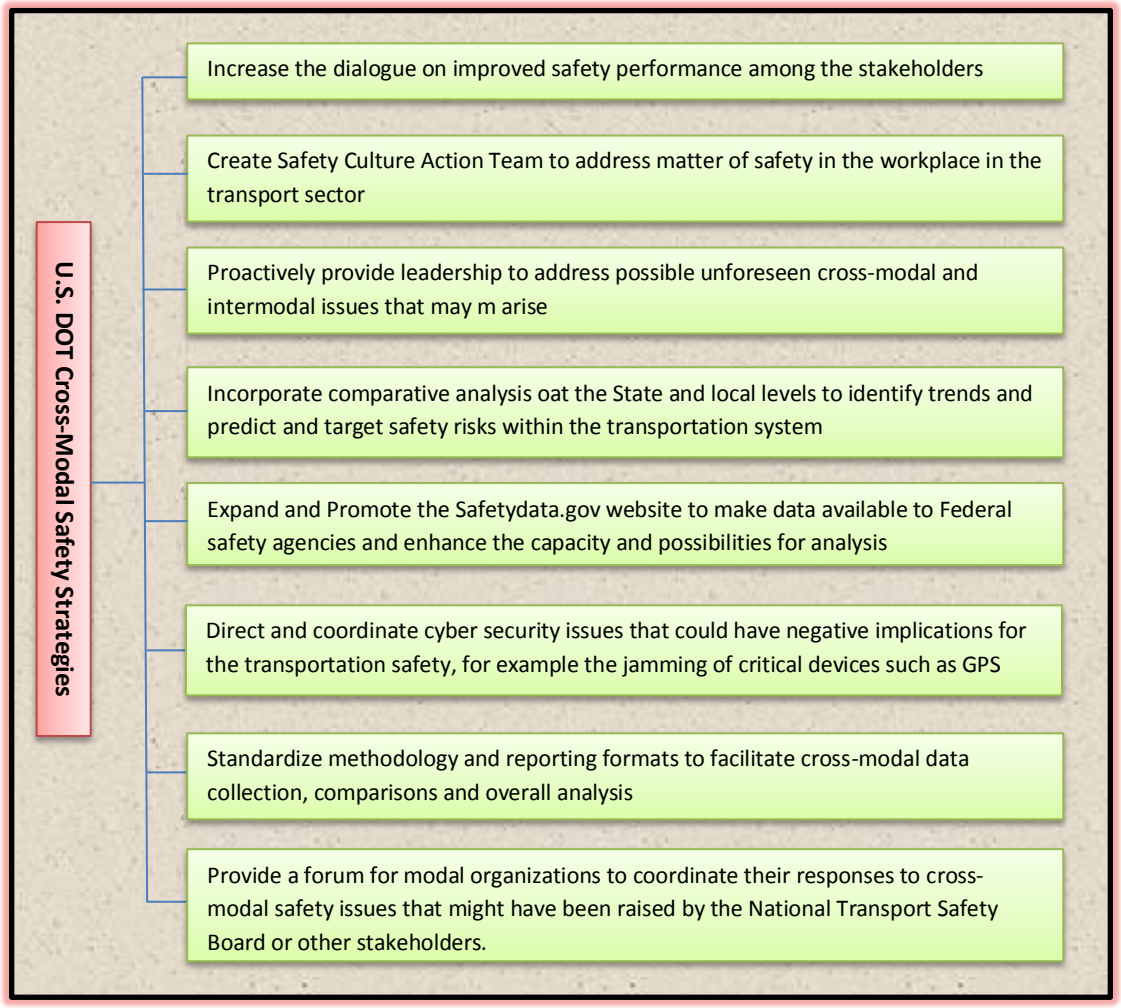
Figure 5.4: Transportation-Related Fatalities and Injuries



Source: U.S. DOT, 2012e

In the case of the U.S. DOT a comprehensive approach is taken towards addressing safety within the overall transport sector. Illustrated in *Figure 5.5* are the primary focus areas for the overall transportation sector within U.S. The Strategy in addition to identifying measures for improving safety in the overall transport sector, also addresses the specific measures to be taken with respect to the different modes.

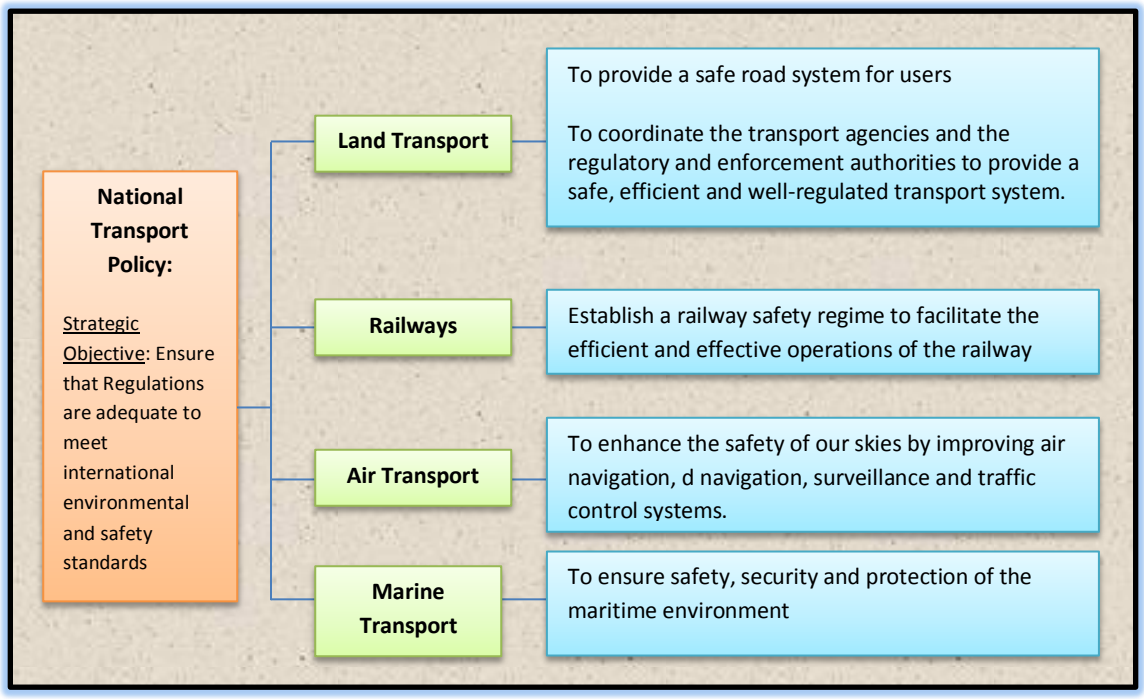
Figure 5.5: The U.S. DOT's Integrated Cross-modal Transport Safety Strategies



Source: Adapted, U.S. DOT, 2012e

On the other hand, the MTWH approaches this matter from the perspective of individual mode or sub-sectors, and there is no aggregated assessment of the overall impact of safety on the transport sector. However each transport subsector has in place its own measures which are largely developed independently; there is currently no central repository of information or data on the overall state of safety within the transport sector as a whole, as is currently done by the U.S.DOT. The NTP stipulates the policies for addressing transportation issues in respective subsectors, in this regard it identifies and highlights the obligation of the government to ensure that the existing policies and safety standards that exist within the global sphere are met and adhered to. *Figure 5.6* shows the provisions in relation to safety in the transport sector.

Figure 5.6: Safety Policy Provisions in the MTWH's Transport Policy



Source: Extracted, Ministry of Transport and Works 2007

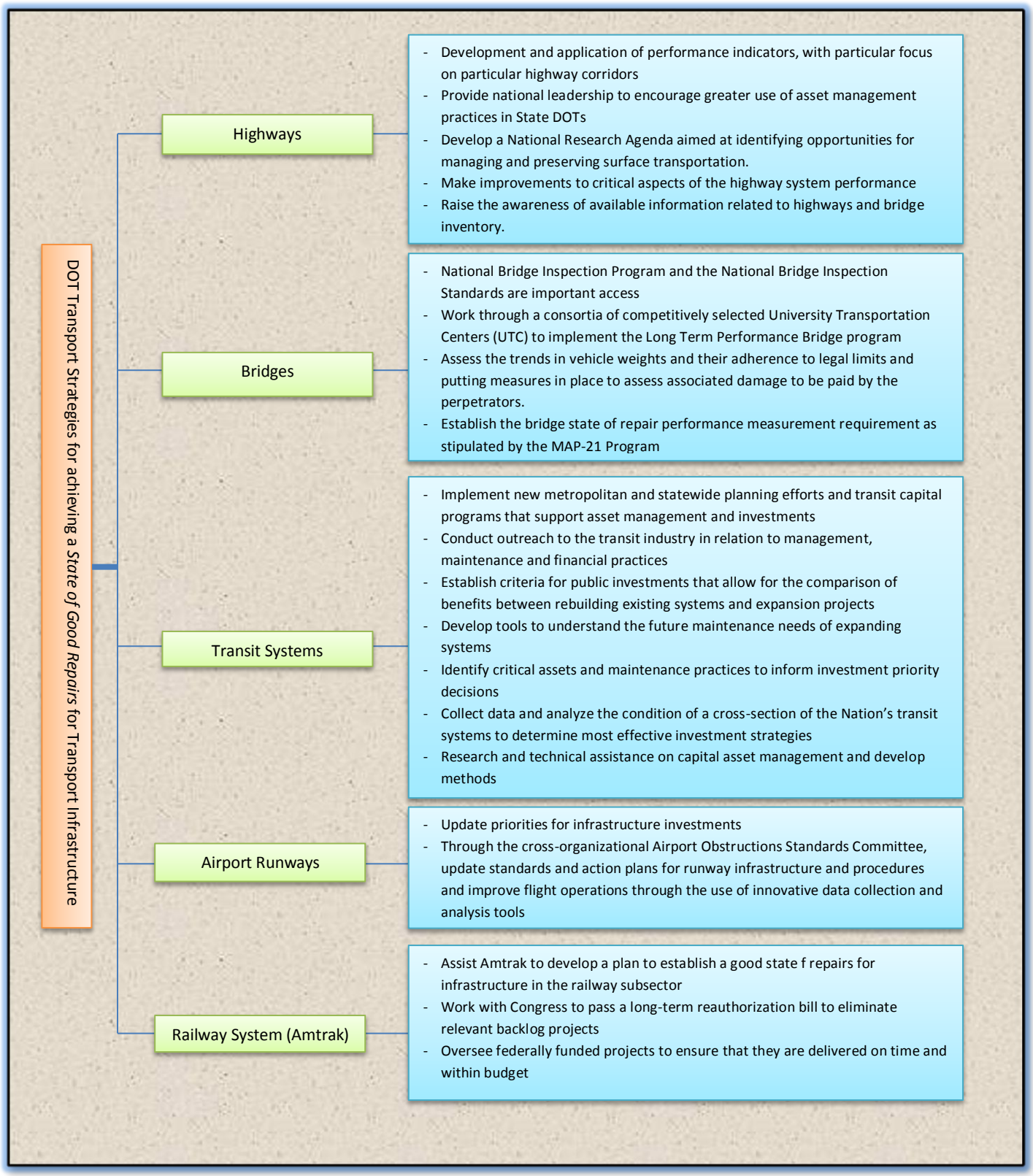
The MTWH currently has in place a National Road Safety Policy which address the measures that are to be taken to improve road safety in an effort to reduce fatalities and injuries. The MAJ is responsible for ensuring that the safety standards within the maritime sector are upheld and are in compliance with international standards. The AAJ is the equivalent for the air transport subsector and in fulfilling its mandates ensures that the safety standards of this sector as established by the relevant international bodies are adhered to. In addition to the RSU within the Ministry, there is a National Road Safety Council (NRSC) which was established in 1993 to operate out of the Office of the Prime Minister. The functions of the NRSC are quite similar to that of the RSU, this include developing and implementing road safety programs and campaigns to promote road safety; essentially it was developed to act as a lobby group for the promotion of road safety. On the other hand the DOT has in place a *"Safety Council"* this was established to benefit from the collaboration of safety experts working with the different modes, in an effort to address possible integrated safety challenges within the transport sector. It is to be noted that although there is an integrated approach to transportation safety in the U.S. DOT, there is emphasis placed of implementing strategies that will result in a reduction in fatalities in the road environment; a similar emphasis is placed on this subsector in Jamaica.

5.3.2 State of Good Repair

The state of the country's transport infrastructure plays a fundamental role in determining the efficiency with which it operates and hence its contribution to the growth of the economy. As with the matter of road safety, the U.S. DOT's sector strategy takes a holistic approach to the assessment and development of strategies for improving the country's transport infrastructure in all modes. This Strategy indicated that the state of the country's bridges, highways, transit assets, airports and passenger rail facilities are in a less than desirable state; this has direct implications for the capacity, efficiency and the safety of the transportation system. The DOT also acknowledged the need for the highest level of government (Federal) to acknowledge the importance of this sector even as it allocates its scarce resources among the many competing uses. The Department has therefore made it a priority to bring the existing transportation infrastructure to a state of good repairs. The role played by the state in ensuring that this strategic objective is given priority, may be in different forms and will vary with the modes and the type of ownership of the infrastructure (i.e. state or privately owned). This may include influencing the conditions under which federally funded infrastructure are earmarked by providing program guidance and technical assistance or through the development and enforcement of regulations (for example safety regulations). The improvement of transport infrastructure might also be incentivized through implementation of various programs; for example the strategy pointed to the, *"recent Federal investments in port infrastructure through TIGER (Transportation Investment Generating Economic Recovery) grants and America's Marine Highway Program provide opportunities for DOT to incentivize improvements in operations, facilities, and equipment to make ports more efficient and productive"* (U.S. DOT, 2012e). In identifying the challenges and the strategies that will be employed by the DOT towards improving the transportation infrastructure, it was highlighted that the current grade allotted to the general infrastructure by the American Society of Engineers is a "*D"* (American Society of Civil Engineers, 2012), and that it is extremely critical for long-term funding to be identified to address this situation. It has also stipulated that the ability of the DOT to maintain the country's infrastructure in a *good state of repair* is largely hinged on the surface transportation reauthorization legislation being passed.

The DOT also developed specific strategies that target the different subsectors, with the ultimate outcome of having improved infrastructure and transport operation in all areas, as shown in *Figure 5.7*. The Department has identified the need to put various measures in place to improve the state of repair of transport infrastructure used by the different modes, in an aim to ensure that the established outcomes can be met. Prominent among these standards is the MAP-21; it *"institutionalizes the need for performance outcomes and requires states to identify targets for each of the measures established by DOT, including reports on progress in meeting those targets. If targets are not met over multiple years, the state must document actions they will take to achieve them"* (U.S. DOT, 2012e).

Figure 5.7: Mode Specific Strategies for Enhancing Transport Infrastructure State of Repairs



Source: Derived from U.S. DOT, 2012e

Jamaica's NTP identifies the government's policy position with regards to maintaining transport infrastructure in a good state of repair, also identifying the policy issues that must be addressed in each case; these include:

Maintenance of Roadway Transport Infrastructure

As indicated in the NTP, the state of the road network has direct bearing on the country's social and economic state; the deleterious impact of overloaded vehicles on the wearing of the road surface; and the density of the Jamaica's road networks and the challenges this presents in keeping up with road repairs (and in some cases rehabilitation).

It was also indicated that a formal mitigation strategy and a disaster management contingency plan is needed for the roads in Jamaica; because of the country's geographic location, it is highly susceptible to natural disasters such as earthquakes, hurricanes, floods and landslides. Over the past several years, these phenomena have resulted in the expenditure of unplanned resources to address the damage that are caused by the events associated with these disasters. This has consequently affected the ability of the government to undertake planned infrastructure maintenance and development as the available resources have very often had to be diverted to clear roads, restore access to communities and fix the damage caused by these events. The source of funds for rebuilding and repair the affected infrastructure is obtained funds that were initially earmarked for other road projects, and in extreme cases there have also been grant assistance from overseas sources.

Maintenance of Air Transport Infrastructure

In an attempt to achieve the policy objective of promoting *"an efficient and productive aviation industry which will compete domestically and internationally"*, it was stipulated in the NTP that there will be particular focus on promoting the continued upgrading and modernization or air transportation infrastructure under particular projects such as the Airport Reform and Improvement Project (ARIP)[19] and the Capital Development Projects at the two International Airports (Norman Manley International and Sangster International Airports).

The maintenance of air transport infrastructure also has direct implications for safety in this subsector (as also the other). Consequently, maintaining a state of good repair for Jamaica's air transport subsector will be hinged, to a large extent, on ensuring that international infrastructure safety standards are adhered to (for example the state of the runway). In this regard, there are routine measures that are in place to ensure that the air subsector is able to meet the established international standards, and be able to stand up to the

[19] The original ARIP Program of 2003 included "a loan of US$59m was obtained to improve the efficiency, quality and sustainability of the airport transportation services available to the tourism industry and the export sectors of the economy"

annually mandated inspections that are undertaken to identify any existing deficiencies that must be addressed (it must be noted that while some of the standards may be infrastructural, others are procedural).

Maintenance of the Maritime Transport Infrastructure

The landside of the maritime infrastructure was the subject of the NTP as far as expansion is concerned; there was no explicit policy statement that addressed measures to maintain the existing infrastructure in a state of good repairs.

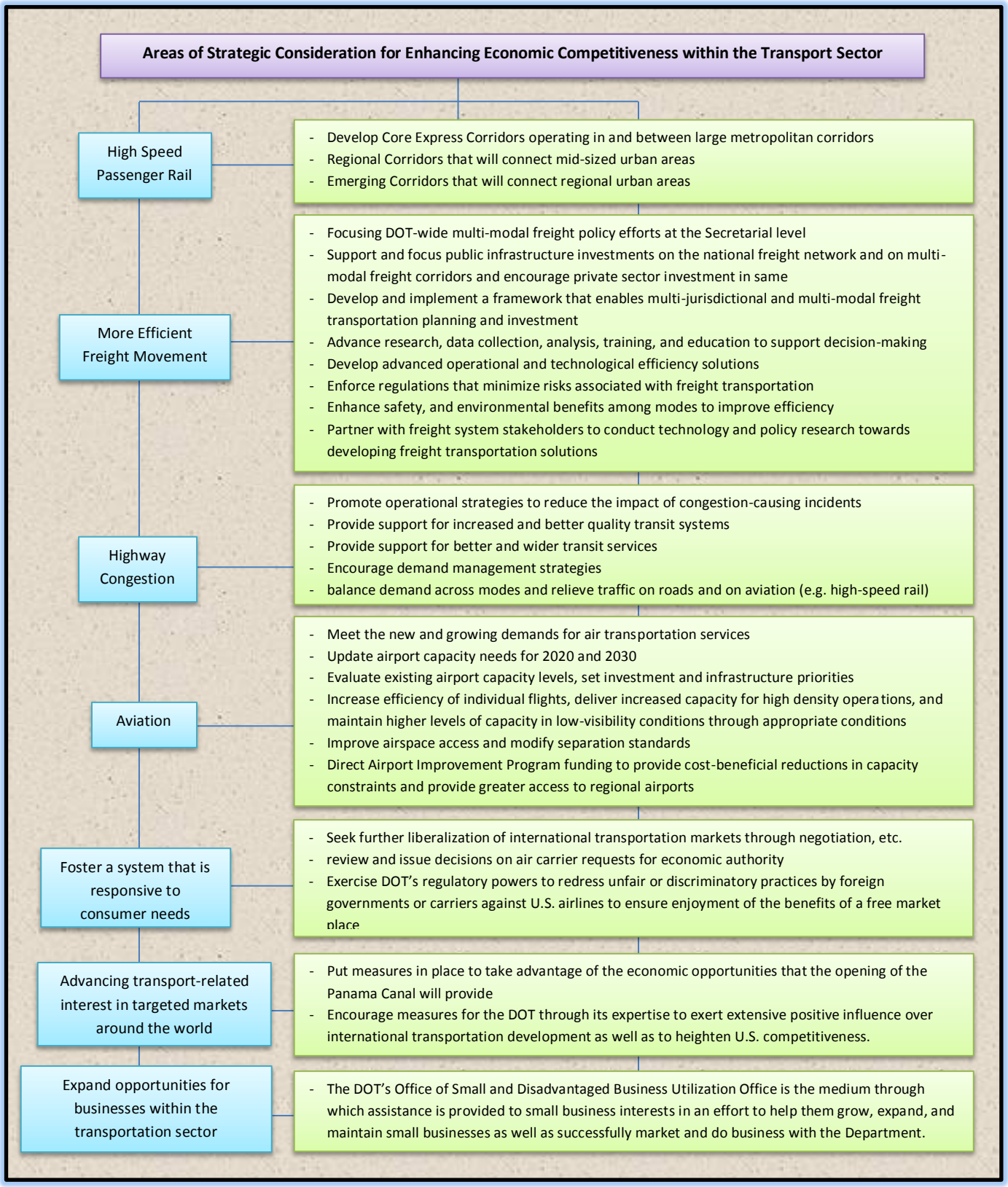
Maintenance Railway Infrastructure

The NTP is silent on the need to maintain the railway infrastructure; there was greater focus on the need to resuscitate the railway system throughout the island for freight and passenger rail transportation, as well as to establishment a safety regime for this subsector. The focus of the policy in this regard might be owed to the poor state of majority of the rail infrastructure.

5.3.3 Economic Competitiveness

The economic competitiveness of a country is becoming increasingly important as globalization takes root, hence reducing the size of the marketplace, making it more complex. Transportation by all modes is essential for maintaining the viability of an economy and as such ensuring that it maintains a high level of competitiveness. As stated in the U.S. DOT Transportation Strategy (U.S. DOT, 2012e): *"over the next 40 years the U.S. population is expected to rise by 43 percent (from 307 million to 439 million), and the GDP is expected to almost triple (from $14 trillion to $41 trillion)"*, there is therefore the need to improve the competitiveness of the transportation sector in an effort to positively impact the GDP. In order for the transport sector to maintain a competitive status, the DOT stipulated that it must be able to do so while achieving successful implementation of the appropriate strategies, and must therefore reflect consideration for "*safety, the stewardship of transportation assets, livable communities, personal mobility, environmental sustainability and economic growth*"(U.S. DOT, 2012e). The DOT's goal of economic competiveness of the transport sector is "to foster smart, strategic investments that will serve the traveling public, facilitate freight movement and bring equitable economic benefits to the Nation". In order to achieve this overarching goal a number of aligned strategies have been developed to address the issues that are associated with the different modes of transportation. *Figure 5.8* provides a synopsis of the major economic competitiveness strategies that have been proposed in respect of each mode of transportation, and generally in regards to operations and procedures in the sector.

Figure 5.8: A synopsis of U.S. DOT'S Transportation Economic Competitiveness Strategies



Source: U.S. DOT, 2012e

Initial funding allocations in excess of $8 billion and an additional $2.1 billion was earmarked for the development of high-speed and intercity passenger rail throughout the country under the American Recovery and Reinvestment Act in the FY 2010 (U.S. DOT, 2012e). Notwithstanding the significant amount of funds available for high-speed rail development, the national demand for these funds by far outweighs the government's capacity to provide these facilities. The DOT accepted that it must play an integral role in getting the surface transport reauthorization passed because of the positive impact that this could have on the country's ability to develop the requisite high-speed rail infrastructure, among other things.

The strategies that were identified for enhancing the contribution of the transport sector to economic growth is against the backdrop of a number of external risks that must be factored into the process. These risks are expected to impact the competitiveness of the transport sector they include: the regular economic cycle of the U.S; the availability of freight transportation data; the availability of adequately trained and skilled work-force; and high speed passenger rail because of concerns for the availability of funding and the industry capacity.

In Jamaica's NTP, there is also the recognized need, to increase the country's economic competitiveness by implementing measures that will result in an overall reduction in the costs associated with transportation in a safe and efficient manner (this has direct consequences for the supply chain). The foregoing was included as an overarching objective in the NTP; consequently, the issues and associated policies should facilitate the realization of this objective. Transportation is an essential component of most industries; the theory that underlies the NTP objectives acknowledges that the cost of transportation should be deliberately targeted in an effort to increase Jamaica's global competiveness. Another relevant policy objective in this regard is that of fostering economic growth and human development by attracting overseas investment. The priorities associated with the latter objectives are poverty alleviation, education, the development of rural areas and agricultural activities, addressing gender inequalities and ensuring that all the major stakeholders are on board. Essentially, these matters have only been generally addressed in the NTP; these provisions have provided a basis for appreciating the government's direction in this respect, however, the *"how to get there"* part of the process is yet to be addressed.

5.3.4 Livable Communities

The development of livable communities is an effort of the President Obama Administration to improve standard of living for U.S. citizens; it was coined on the basis of a "place-based" policy and is aimed at *"fostering livable communities—places where transportation, housing and commercial development investments have been coordinated so that people have access to adequate, affordable, and environmentally sustainable travel options—is a transformational policy shift for DOT"* (U.S. DOT,

2012e). This is a structured approach to ensuring that the least advantaged population in society is able to access the affordable and efficient transportation options, which is critical to their ability to adequately secure a livelihood, while reducing the level of dependence on automobiles. The coordination of investment between the transportation and other sectors has direct and indirect impacts on the government's coffers and ultimately on its tangible and intangible returns on investment. The developing trends in land use (an increase in sprawl) and transportation development presents greater challenges for the U.S. DOT, for example, where communities are developed in newly emerging or remote areas the households in these locations must rely on the automobile to access goods and services outside of their neighborhoods (which are relegated to serving a dormitory function). As the settlement patterns become more dispersed and the demographics of the typical household changes, the government has to grapple with increased challenges in its thrust to implement its Livable Communities Initiative (LCI).

The implementation of this Initiative is expected to have positive physical, social and economic impacts. As stated by the DOT (U.S. DOT, 2012e), *"this coordinated approach can save taxpayer dollars. Using U.S. Census Bureau data, many studies estimate that compact, mixed-use development can reduce infrastructure costs by 11 percent or more Salt Lake City's Quality Growth Strategy—in which infrastructure and development investments were focused on existing communities—is predicted to save the region $4.5 billion in infrastructure costs by 2020, compared to traditional development patterns"*. The DOT has highlighted a range of strategies that it will implement to achieve the intended optimum results from the LCI throughout the country. To achieve the LCI agenda, the DOT will be focused on incorporating a coordinated approach in achieving its targets and as such will: provide best practices as frames of reference; encourage land use planning with the planning activities of the Metropolitan MPO; develop pilot and link tools that will assist communities in determining tradeoffs within the context of its development; collaborate at various levels to work with the communities to develop local and universal performance measures; and to advocate for rigorous planning efforts at both the state and local levels.

Under the LCI, strategies have been developed in detail to bring the government closer to achieving its goal of creating ideal living environments for the U.S. population. According to the U.S. DOT (U.S. DOT, 2012e), the strategies developed in this regard are aimed at:

- Improving networks that are aimed at accommodating pedestrians and bicycles;
- Increasing access to convenient and affordable transportation choices;
- Improving the public transit experience; and
- Improving coordination of Human Services Transportation

As with the other focus areas for which strategies were developed by the DOT, the possible external risks were identified, hence creating a more comprehensive backdrop for appropriate decisions to be made.

Among the risks identified were: the availability of sustainable funding (as also previously identified in connection with other strategies); legislative obstacles; the durability of the environment in terms of the ability for lands to be reused; existing roadway design standards and the population's resistance to change.

Jamaica's NTP addressed various aspects of what comprises a livable community. One of the policy objectives that it includes is: "*to develop an integrated planning approach for roads and development*" (MTW, 2007). The major issue that was identified in this regard is the need to facilitate collaboration between the relevant Government entities to ensure coordination in developing roads and maintaining traffic flows; other issues included the need to free the road of encroachment and alleviate congestion that is caused by activities that encroach on the roadway. In reality however, the real issues transcends those that have been articulated in the NTP. There should be emphasis on the need to integrate transportation and planning activities, in particular, relating home-work trips as housing developments continue to proliferate throughout in the suburbs while jobs remain concentrated in urban areas. The NTP outlines issues that it deems necessary for alleviating poverty and providing for the needs of the vulnerable within the Jamaican society. The policy statements that have been developed to guide this policy objective are: to provide adequate public transport to places of employment; eliminating the impediments to non-motorized transportation and eliminating gender bias in the provision of transportation. The fact that these issues were raised in the Policy indicates their importance to the sector, there still remains a gap, however, in highlighting the connections among the numerous socio-economic issues.

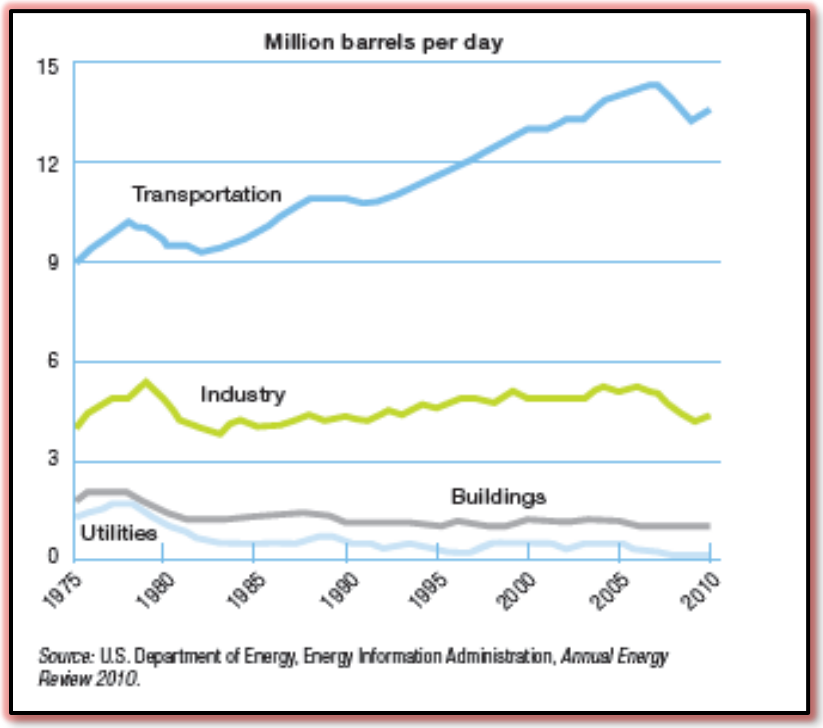
5.3.5 Environmental Sustainability

The state of the natural environment is of concern to many because of the implications it has for development and existential activities. Environmental sustainability became more prominent over the last few decades as the level of development intensified throughout the globe, and the demand on the world's natural resources continues to increase. Prime among the resources that faces pressure from the transport sector are land and oil. This has resulted in concerns in many circles, about the need to balance developmental and environmental preservation activities to ensure that the needs of the current generation can be met without compromising the ability of future generation to meet their own needs (United Nations, 1987).

The DOT transportation strategy pointed to the need to put policies in place to improve air quality especially in the more built up areas; with an increase in the use of petroleum as the main transportation fuel, there is also an increase in the negative impacts on the air quality. In the U.S., *"Transportation services directly account for 28 percent of total energy use in the U.S., and almost all of the energy*

consumed for transportation in the U.S. is in the form of petroleum. About two-thirds of all petroleum usage in the U.S. is in the transportation sector" (U.S. DOT, 2012e), as shown in *Figure 5.9*.

Figure 5.9: Share of Petroleum Use in the United States (1975- 2010)



Source: U.S. DOT, 2012e

The level of emission associated with transportation is high especially in metropolitan areas. In the U.S *"about 60 percent of transportation emissions were from passenger cars and light-duty trucks, about 19 percent from medium- and heavy-duty trucks, and about 12 percent from aviation"* (U.S. DOT, 2012e). Notwithstanding, there has been a reduction in overall emissions of air pollutions by the transport sector. This is largely owed to the efforts of the Government to implement and enforce regulatory provisions through the Clean Air Act, and the specific projects and programs that have been developed by the U.S. Environmental Protection Agency (EPA) to enhance the implementation of this legislation. The need for these programs arises because of the health implications that the emission of various types of pollutants into the atmosphere have for the health of the population that are in the most affected areas. The DOT was therefore identified as the primary agent for leading the country's initiatives towards achieving a reduction in carbon emissions, improving energy efficiency, and combating climate change, as articulated in the Transport Strategy.

Specifically to address the transport-related issues that threaten the health and sustainability of the population and the natural environment, the transport strategy highlighted the most critical areas that

requires attention by the U.S. DOT, and based on which precise strategies were developed. These strategies are intended to:

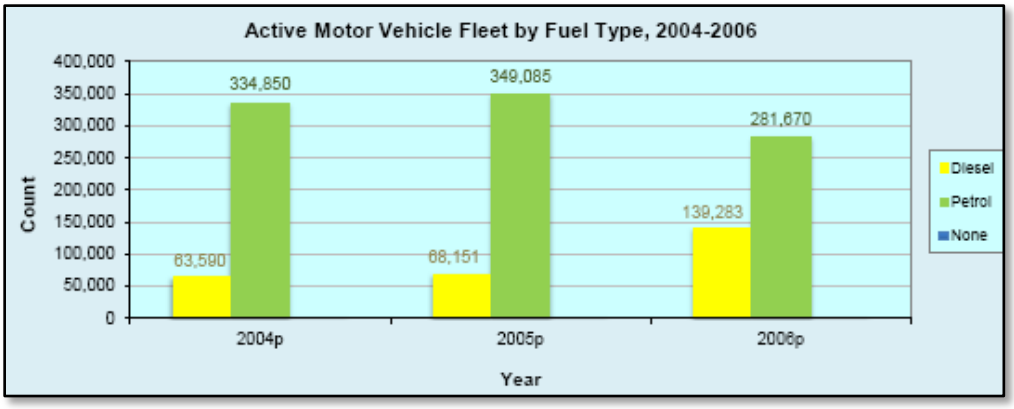
- Reduce carbon emissions, improve energy efficiency, and reduce dependence on oil;
- Reduce transportation-related air, water and noise pollution and impacts on the ecosystems;
- Increased the use of environmentally sustainable practices in the transport sector; and
- Reduce pollution from DOT-owned or controlled transportation or facilities.

There are certain risks that will impact the timely implementation of these strategies. Included among these are the availability of the necessary technology and the lack of the necessary delivery infrastructure.

Like the U.S. in Jamaica there are concerns for the impacts that the transportation sector has on the natural environment and the NTP highlights with regards to the air and maritime subsector that there are adequate regulations in place to meet international environmental standards. In regards to the Land Transport subsector, there is a policy statement which speaks to minimizing any negative environmental impacts that may be cause by the provision and maintenance of roads and road infrastructure. The main instruments that have been identified for use in this regard are the Environmental Impact Assessments (EIA) and Traffic Impact Assessments (TIA) for major developments (including expansions).

Kingston and other urban areas continue to experience increased growth in infrastructure, activities and the use of motorized transportation; as a result there is a growing congestion problem. Jamaica's National Environment and Planning Agency (NEPA) indicated that *"the motor vehicle fleet in Jamaica doubled from 171,000 in 1993 to 348,000 in 1999 and gasoline consumption also doubled from 2 to 4 million barrels between 1989 and 1996"* (NEPA, 2005). The MTWH Annual Statistics report for the 2006-2007 period showed that there has been a reduction in the use of gasoline and an increase in the use of diesel as revealed by vehicle registration data (see *Figure 5.10*).

Figure 5.10: Active Motor Vehicles Fleet by Fuel Type (2004-2006)

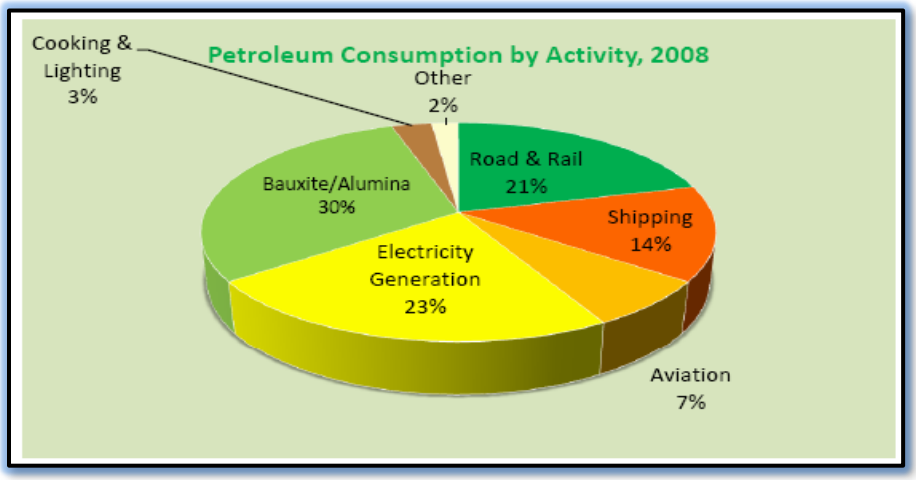


Source: MTWH, 2011

This change in fuel use has significant repercussions for air quality, whereas both fuels emit polluting substances, however, diesel is a *"dirtier"* fuel than gasoline. The extent of the air quality problem and in particular the contribution of transport sector is not certain as there is no routine data collected, based on which inferences can be drawn. In the past, Jamaica developed a number of standards and regulations that were intended to reduce air pollution. These regulations include the: Ambient Air Quality Standards (1996), Vehicle Emissions Standards (1996), Stack Emission Standards (1996), and Draft Ambient Air Quality and Stack Emission Regulations (1999).

In 2005, the NEPA proposed emissions standards and regulations for heavy duty vehicles, light duty vehicles and light duty truck, and included a superficial approach to the testing process where mainly physical testing was carried out. The only test and enforcement that is currently carried out is a visual observation when vehicles undergo its mechanical examination, and in some cases the owner is issued with a ticket to remedy the problems that have resulted in any excess emissions. This approach is very rudimentary, especially when compared to the level of sophistication that exist and is being used and constantly being improved in countries such as the U.S. For such an important matter as shown in *Figure 5.11*, the amount of petroleum consumed by the transport sector is significant, the MTWH has a responsibility through collaborative efforts with the NEPA to develop appropriate strategies for ensuring that the contribution of the transport sector to the deteriorating air quality is reduced (this may require a revision of the existing standards and regulations).

Figure 5.11: Petroleum Consumption in Jamaica by Activity (2008)



Source: Ministry of Energy and Mining, 2010

This might be a good opportunity for *technology transfer*[20] as it relates to adapting/adopting the technologies that have been used successfully in other global jurisdictions and is a matter that should be appropriately addressed in the NTP and subsequent strategy.

The foregoing illustrates the need for adequate organizational and institutional capacity to facilitate development and implementation of the relevant policies and strategies. Therefore in order for the range of strategies outlined to be successfully implemented there must be efforts established to boost the capacity of the stakeholder entities. The DOT's Transport Strategy articulated its goal for achieving organizational excellence which will be ultimately manifested in transformation of the transport sector. Therefore, the DOT pointed out that a reduction in employee turnover, increased employee satisfaction and the employment of highly trained staff can help to ensure that the DOT's strategic objectives are met, to this end as stated in the Strategy (U.S. DOT, 2012e), the Department has formulated strategies that include:

- Developing a positive work environment with a vibrant public service culture;
- Promoting diversity, equal employment opportunity, and affirmative employment for underrepresented groups at DOT;
- Working with stakeholders to determine the skills, educational, and occupational requirements of the future transportation workforce and implement a national workforce development strategy to meet the increasing demands;
- Ensuring all employees adhere to all standards of ethical conduct;
- Linking employee performance to strategic goals;
- Holding mandatory training for all first-line supervisors to allow them to develop the requisite competencies to undertake a leadership role as effectively as possible;
- Implementing processes which will improve acquisitions and contract management;
- Implementing the June 13, 2011 Executive Order (EO): Delivering an Efficient, Effective and Accountable Government[21]; and
- Working with local government entities to improve transit service and neighborhood amenities around DOT field offices and headquarters.

In addition, facilitating adequate *defense mobility* and *emergency preparedness* are underlying factors that must be addressed if the DOT is to effectively implement its transport strategy. Also, as previously

[20] Technology Transfer is the process of transferring skills, knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities among governments or universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services. http://en.wikipedia.org/wiki/Technology_transfer

[21] This was instituted by President Obama in an effort to cut waste, streamline Government operations, and reinforce the performance and management reforms.

outlined in this chapter, the DOT has ensured that the strategy includes measures that will facilitate the implementation of an open system of government.

Financial Performance is factor that impacts the overall performance of the transport sector, and the relationship it has with other sectors. In an effort to optimize the financial performance, the DOT is committed to:

- Ensuring strategic, continuously-improving, secure and efficient storage and exchange of critical information;
- Improving efficiency and transparency of procurement processes using online-workflow, contract review boards, peer reviews, and shared best practices;
- Improving the administration, oversight, transparency and management of DOT's traditional grants and its portfolio of discretionary grants;
- Maximizing efficiencies through proactive assessments of investment vs. output/outcomes; and
- Ensuring performance driven programs, consistent with the Office of Management and Budget Memorandum 10–01 which speaks to an *"Increased Emphasis on Program Evaluations"*.

The program evaluation scheme that has been put in place by the DOT was in keeping with a mandatory requirement under the Government Performance and Results Act of 1993 (GPRA) and the GPRA Modernization Act of 2010. The program evaluation mechanisms were established to keep track of the extent to which the existing programs were achieving their intended objectives. The planned and budgeted program evaluation that was developed by the DOT is detailed in *Appendix 8*.

The MTWH has also identified the importance of addressing various strategic and integrated issues towards facilitating increased inter-agency coordination among the different modes of transportation. One of the aims of the NTP is to identify the legislative and administrative structure that is required for realizing its goals; for example it sought to address the institutional arrangements that for the management of the different classes of roads (i.e. main, parochial, agricultural and neighborhood roads). Much like the recognition that the DOT gives to the importance of building the capacity of its staff, to effectively implement its outlined strategies in a sustainable manner, the Ministry should consider linking this type of activity that is concurrently being undertaken under the PSMP in developing the NTS. There is no articulation of a clear strategic linkage between the responsibilities assigned under each officer's annual work plan and the objectives set out in the NTP. Putting such a mechanism in place can enhance accountability and also facilitate the development of an adequate evaluation mechanism to determine the effectiveness of the systems and process in place, how they contribute to achieving the established policies, and the extent to which they reveal inadequacies.

5.4 Summary of Planning Output from the Transport Planning Process

The transport planning process that was undertaken by the U.S. DOT generated a number of outputs with plans policies, programs and studies for the different subsectors/ modes. For example, for the land transportation sector, among the outputs of the planning process were the: Unified Planning Work Program (UPWP), Metropolitan Transportation Plan (MTP) or Long Range Transportation Plan (LRTP), Transportation Improvement Program (TIP), Long Range State Transportation Plan (LRSTP), and Statewide Transportation Improvement Program (STIP) which is shown in *Table 5.2*. The planning horizon associated with the preparation of each of these documents and the revision timelines are also show in *Table 5.2*.

Table 5.2: Main Products from the U.S. Transportation Planning Process

	Who Develops?	Who Approves?	Time Horizon	Content	Update Requirements
UPWP	MPO	MPO	1 or 2 Years	Planning Studies and Tasks	Annually
MTP	MPO	MPO	20 Years	Future Goals, Strategies, and Projects	Every 5 Years 4 years for nonattainment and maintenance areas
TIP	MPO	MPO/ Governor	4 Years	Transportation Investments	Every 4 Years
LRSTP	State DOT	State DOT	20 Years	Future Goals, Strategies, and Projects	Not Specified
STIP	State DOT	US DOT	4 Years	Transportation Investments	Every 4 Years

Source: http://www.planning.dot.gov/documents/briefingbook/bbook.htm

5.5 How Inter-Modal and Cross-Sector Collaboration and Integration is Facilitated

The U.S. DOT has a structure in place which ensures that transportation plans, policies and strategies for each mode is not carried out in isolation of the other. The current 2012-2016 Transportation Strategic Plan is an important instrument that is used in ensuring that there is coordination among the planning and development activities being undertaken within each mode of the transportation sector. This mechanism also allows for the DOT, the major decision-making body to determine how the available financial resources will be allocated among the competing transport subsectors. The DOT, because of the

comprehensive and integrated structure that it has in place, is able to assess the implications that the activities of the transport sector could have for other sectors and vice versa. Therefore, in deciding what areas of the transport sector should be targeted for investments, the Department is able to ensure that it is in keeping with the overall developmental goals for the country; and also that the priorities of the sector is aligned with the country's overall development priorities.

In the case of Jamaica, there are procedures in place to monitor the activities of the entities that operate under the different modes of transport; these are overseen by the Performance Monitoring Unit within the Ministry. The integration of the sector through a comprehensive transport planning process is however lacking. The ability to streamline this process is impacted by the many and varied different procedures and structures that exist among the entities, and as such would have to be targeted for standardization where possible to facilitate the successful integration of the transport planning process. Until the Ministry is able to undertake a detailed holistic analysis that takes into account the integrated intra and inter sectorial issues, the impact of the transport sector may not be at its maximum in terms of its potential to contribute to economic growth and development. Increasing the level of integrated assessment, that is carried out within the transportation sector will allow for a more accurate alignment of the transportation sector's goals and priorities, with that Jamaica's overall development goals and priorities. The integration of the long-term vision for the sector should ideally be at the core of the transport planning process; this could be instrumental in streamlining various processes within the Ministry and its entities. An important gain that could be made in this regard is ensuring that the necessary information and data are collected on a routine basis; without a sound empirical foundation, the decisions that are made by the decision-makers may be questionable as they may not necessarily be the most comprehensive and hence accurate.

Also crucial, is the role that having adequate and timely information on various aspects of the transport sector will have on the ability of government authorities to effectively undertaking their mandated responsibilities. The U.S. is at a more advanced stage in the process of collecting the requisite information that is fed into the analysis and decision-making processes. The DOT has developed and incorporated the use of various technologies and linked systems which incorporate data collection as a part of routine technical, administrative and operational procedures. Although data collection by transport entities is more advanced in the case of the U.S. than it is in Jamaica, there are still efforts geared at improving the data collection and analyses processes to address existing gaps and to facilitate sound decision-making.

One of the challenges that face the U.S. and Jamaica is that where data do exists in relation to transport matters, the collect and collation processes and scales are not standardized. Consequently, where data is shared among the transport entities and also entities from other sectors, there is very little that can be done

by way of facilitating meaningful intra and inter-sectorial analyses. In addition to boosting efforts of collecting data within the transport sector in both territories, it is important to have systems in place to standardize data collection and data sharing. In implementing these procedures, the exorbitant costs associated with collecting the necessary data in relation to each mode of transportation cannot be understated. This cost factor must be a part of the discussions among the interested parties, to determine among other things, how the costs may possibly be apportioned where appropriate.

5.6 The U.S. DOT's Strategic Plan and Direction of the U.S. Economy

The U.S. Economic Development Agency (EDA) is the federal entity with responsibility *"to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy"* (EDA, 2012). There are six areas of economic priorities that were established by the EDA, these provide the criteria for evaluation to determine whether projects *"advance global competitiveness, create jobs, leverage public and private resources, can demonstrate readiness and ability to use funds quickly and effectively, and link to specific and measureable outcomes"* (EDA, 2012). To facilitate evaluation of policies and programs against the EDA's priorities particular attention was paid to the areas of: collaborative regional innovation; public-private partnerships, national strategic priorities, global competitiveness, environmentally sustainable development; and economically distressed and undeserved communities (a detailed description of each is included in *Appendix 9*).

According to Pisarski (2008), "s*teady economic growth and increasing and shifting population make a high-performing transportation system more important than ever. Serving the mobility needs of growing cities and their emerging megaregions will be a major factor in ensuring future economic health".* Pisarski (2008) acknowledged that with ongoing growth in the population there is a simultaneous spatial dynamic of economic growth that cannot be overlooked, it has stated that, *"over the next 30 years, the U.S. population is projected to grow by 80 million people, from 300 million today to nearly 380 million in 2035. The South and West are continuing to grow, and the major metropolitan areas across the nation are being knit together into massive "mega regions" that are powering economic growth. Approximately one half of the U.S. population is expected to live in metropolitan areas of more than five million in population by 2035"* Pisarski (2008). In addition, the U.S. economy has experienced growth over the last couple years; the Chamber of Commerce stated that at the economy grew from $2.7 trillion in 1980 to a $13.2 trillion in 2006 (Pisarski, 2008). In spite of this growth, the U.S acknowledges that its position in the world as the number one economy is not static, and that in fact it faces serious competition from Asia, in particular China, for maintaining this status and consequently must put plausible strategies in place to maintain their status.

A good transport system is necessary for ensuring the healthy growth of any economy and also for ensuring that it is able to compete on the global frontier. As indicated by Pisarski (2008), **"***While the U.S. business community has adapted well to the changing dynamics of global economies and has achieved impressive increases in productivity, the margin of U.S. competitive advantage is threatened in key sectors of the economy. Across all sectors, a transportation network providing reliable, fast, and cost-effective performance is critical to maintaining this advantage".* Overall, Transportation is critical to most economic sectors; in the U.S the five economic sectors that accounts for approximately 84% of the country's total earnings is especially reliant on the availability of a sound transportation network; these are the retail, manufacturing, services, agricultural and the natural services sector. The ability of the country to sustain a supply chain at a low cost is important for maintaining a competitive edge, even as the demand side of the economy continues to burgeon. It is the view of Pisarski (2008) that, *"continued underinvestment and business-as-usual transportation policies and programs will have a detrimental impact on the ability of the United States to compete in the world economy. Without adequate transportation infrastructure capacity and reliable and cost-effective transportation services, the economic growth, productivity, and competitiveness of metropolitan areas, mega regions, and key industries are at risk. It is time for the United States to strategically plan and invest in its transportation system. Otherwise, the transportation system will become a competitive disadvantage for U.S. industries, and it will be harder and harder to sustain the growth of the national economy***".** It is unequivocally clear that the role of transportation in facilitating economic development within the U.S. has been recognized and articulated by the investors. The DOT's strategic plan also highlights and supports the stance presented by Pisarski (2008). The greatest challenge that still remains however is being able to ascertain the requisite funds to undertake the necessary developments in the sector.

5.7 Seeking to Align Jamaica's NTP and Economic Developmental Agenda

In a study that was undertaken by the USAID in 2008 to assess the Jamaica's economic performance, the importance of the role that the transportation sector plays in the enhancing economic development was recognized. The USAID (2008) stated in its report that, *"Jamaica performs quite well on the Global Competitiveness Report's indicator of overall infrastructure quality, ... High marks for air transportation and port quality drive that score, though rail infrastructure scored [poorly]on the same scale. There is certainly room for improvement, but basic infrastructure does not appear to be a critical constraint on private sector development".* This is not to say that Jamaica's transportation infrastructure is at its optimum. As time progresses and the global economic landscape changes, it becomes more important for the country to keep pace with the level of infrastructure development required. Under the recently developed Vision 2030 National Development Plan, transport was cited as one of the strategic priority development sectors. Like in the U.S., Jamaica's transport sector is at the center of the activities of other

core development sectors; these include mining, manufacturing, trade, tourism and agriculture. The importance of the sector to the country's overall development is recognized, however, as shown in the previous chapter, this has not always been reflected in the annual national budget, and increasingly so over the last few years. Considering the scarce resources that must be distributed among the many competing interests, although the landscape of the global economy continues to evolve there has not been a commensurate change in the allocations made to the transport sector.

The NTP provides a basis for the government to establish the direction of the transport sector based on its current state, what is anticipated in order to make it adequately competitive, and what is needed to move it from where it currently is, to where it is ideally envisioned to be. The ability for the decision-makers to make prudent transportation investment decisions based on a comprehensive and integrated assessment of other sectors and vice versa, also allows for easier and more accurate alignment with the country's overall economic development agenda.

5.8 Implementing the U.S. DOT's Transportation Strategic Plan

The Strategic Plan is designed to be implemented through the activities of the various entities at the more local and operational levels, including the MPOs at the state level. At the federal government level, the role of the DOT is to ascertain sustainable funding sources and also to determine the priorities that will guide the direction of the transport sector, and hence the areas to which the available resources will be allocated. Another function of the DOT at this level is to make its case to Congress as to why the transport sector (and or respective subsectors) should be allotted resources over other economic sectors that are competing for these same resources. To date, as earlier indicated, the major challenge in being able to adequately fund the implementation of the Transportation Strategic Plan is the approval of a Transportation Reauthorization Act with a large enough sum, and spanning a longer time period.

The solicitation of feedback was a part of the process for finalizing the U.S. DOT's Transportation Strategy. This allowed interested stakeholders to provide feedback on their concerns. For example, one of the concerns that were raised was the emphasis that was placed on establishing "livable neighborhoods", and the contention that the concept of "livability" may have different meanings for different populations. Successfully getting the relevant stakeholders to be in accord with where the U.S. DOT's Strategic Plan is concerned is also vital to its successful implementation, hence the need to start seeking their buy-in at an early stage in the process.

5.9 Factors Impacting the Successes of the U.S. DOT's Transportation Strategic Plan

The Transportation Strategic Plan has been touted as providing a road map for the transportation sector; it details the Government's vision for the "*New Generation Transportation*" at the end of the planning horizon. There are a number of factors that have impacted and continue to impact the success realized with implementing this Strategy. These range from administrative, legislative, financial, and other specific possible restraints with respect to each priority. One of the major impediments to a more successful implementation of this strategy (that cannot be overemphasized) is the unavailability of the requisite funds. "*The funding for transportation plans and projects comes from a variety of sources including the federal government, state governments, special authorities, public or private tolls, local assessment districts, local government general fund contributions (such as local property and sales taxes) and impact fees"* (U.S. DOT, 2012f). Federal funds are provided through two main mechanisms: authorization and appropriations. Authorization is carried out through appropriate legislation, *"Congress enacts legislation that establishes or continues the existing operation of a federal program or agency, including the amount of money it anticipates to be available to spend or grant to states, MPOs, and transit operators. Congress generally reauthorizes federal surface transportation programs over multiple years. The amount authorized, however, is not always the amount that ends up actually being available to spend*" (U.S. DOT, 2012f). Appropriations are made by Congress on a fiscal yearly basis. "*As a result of the appropriation process, the amount appropriated to a federal program is often less than the amount authorized for a given year and is the actual amount available to federal agencies to spend or grant"* (U.S. DOT, 2012f).

This Strategy is an important tool in improving the accuracy and effectiveness of the decision-making processes, and implementing the government's policies for the transport sector. The current global economic situation has added a new dimension to the ability of the government to finance the implementation of this Strategy. In the Strategy, the goals, outcomes and performance measures were identified for each of the six priority measures that were outlined; however, it did not identify possible funding mechanisms that could be explored outside of seeking to obtain approval for a Reauthorization Transportation Act. This planning framework that is provided by the U.S. DOT at least provides a clear direction of not only the policy positions of the government with regards to the transport sector in general and specifically; it also identifies the integrated strategies to grow the sector. Therefore, the strategies facilitate a thorough assessment of the associated costs and benefits of including the intra and inter-sectorial opportunity costs. Jamaica has not been able to undertake this level of assessment for its transport sector in the absence of such a strategy, although it also faces similar financial constraints as the United States (at a smaller magnitude but still significant within the contexts of its size and economic realities). Even in light of the financial constraints that exists, the transport strategy also provides a framework for seeking to explore possible sources of funding for implementing these strategies, this was

not included in the U.S. DOT Transportation Strategic Plan, but is certainly a possibility that could be considered in revising same as well as by Jamaica in its attempts at preparing a strategy for the country's transport sector.

5.10 Summary Comparison of the U.S. and Jamaica

An assessment of the transport planning processes, systems and activities that are currently in place for Jamaica and the U.S. shows some similarities as well as some differences. It revealed that the planning activities of the U.S. is more advanced than that of Jamaica, and that there are lessons to be learnt from the experiences of both territories. *Table 5.3* presents a synopsis of the comparison between a number of parameters that has direct or indirect implications for the successful development and implementation of a comprehensive and integrated national transport strategy.

Table 5.3: Comparison of the Transport Sector in Jamaica and the United States

PARAMETERS	JAMAICA	UNITED STATES
The existing Administrative Structures	The administrative structure of Jamaica's transport sector is highly centralized and fragmented in terms of the responsibility for the different modes of transportation. The entities that have varying responsibilities in the sector are: the MTWH and its Portfolio agencies (including housing scheme roads); the Ministry of Agriculture (farm roads); and the Ministry of Local Government (parochial roads). The government has in the past, explored the possibility of creating entities such as Single Road Authority and a Maritime and Air Transport Authority which it was believed could have provided a framework for assessing transportation issues on an integrated basis; however, these entities were never created.	The U.S. DOT operates at the federal government level, however, its responsibilities for the transportation sector at this level also has federal level entities coming under its umbrella that are responsible for activities in the different modes of transportation. In addition, there are entities at the State level that almost mirrors the structure at the federal level, with the State DOTs acting as the overarching administrative body at this level (e.g. the FTA, FHWA etc.). There are regional and local government entities that facilitate the administration of the transportation sector activities at a more localized level (include the MPOs).
The existing Legislative Environment	Jamaica's transport legislation is a strong reflection of its colonial past and is therefore archaic. There have been numerous efforts (some of which are currently underway) at revising the existing legislations to reflect the country's current realities. Among the major challenges that emerge, has been the piece-meal approach that has been taken to the process of legislative reviews within the sector. This present risks of resource wastage, uncoordinated activities, and redundancies, among others. The Cabinet Office coordinates an annual Policy Register which also includes the transportation-related legislations (among others) that are being considered for the respective *legislation year*. Various aspects of the sector are affected by the inadequacy of the existing legislation but are also further hampered by the excessive length of time that it takes for legislation to be prepared and accepted by the Houses of Parliament.	The U.S. Transportation system is governed by a wide range of legislative provisions that govern matters in respect to the different transport modes as well as precise subject areas. The Federal Register provides a real- time information system that allows for the general public to keep track of the transportation legislations (among others) that are in place as well as those that are being prepared and are yet to be considered by Congress. The length of time that it takes for transportation legislation to be passed varies. A major factor that has impacted this is the availability of financial resources; this is the reason that the U.S. DOT has not been able to get a Transportation Reauthorization Bill passed by Congress since 2011. However in March 2012, a new transport revenue measure was instituted for financing surface transportation, with the passing of the *Moving Ahead for Progress in the 21st Century Act (MAP 21).*

PARAMETERS	JAMAICA	UNITED STATES
Major Issues Facing the Transport Sector	The major issues with which Jamaica's transport sector is faced includes: - The lack of adequate funding resources - A lack of integration among the different modes - Inadequate and aging transport infrastructure - Outdated legislation - Inadequate administrative structures - The absence of a transport strategy although a Policy was promulgated since 2007 - The extent of the environmental impacts of the transportation sector is uncertain and no corrective measures are in place to address this - The extent to which the potential of the transport sector is being leveraged - Development and implementation of measures to reduce the reliance of the transport sector on petroleum as the main fuel - The lack of data to inform the transport planning process - The lack of coordination and integration of development activities among the transportation and other development sectors. - The challenges of meeting road safety standards - Access to transportation and associated services in rural Jamaica - Facilitating meaningful public participation in the transport planning and policy development processes	The major issues with which United States' transportation sector is confronted includes: - Aging infrastructure in need of repairs - Increased demand generated by increased population - Decrease in the vehicle miles travelled (VMT) and a consequent reduction in the proceeds from gas tax - Accessibility by all to transportation - Affordability of transport services - Impacts of the sector on the natural environment (including its contribution to carbon emissions) - The growing tendency of Americans to become less auto-dependent - International competition faced by the intermodal sectors - Safety concerns in relation to the different modes - The amount of oil used by the sector, which still remains strongly dependent on oil - The challenge of getting Congress to pass a sizable Transportation Reauthorization Act to assure a source of funding the sector's major project implementation activities. - The threats posed by the sector to social and environmental justice
Integration of approaches towards addressing transportation safety	Policies regarding safety are developed independently for the different transport modes. The NTP highlights the overall position of each mode as it relates to safety; however, there is no integrated assessment of this matter. For example the RSU within the MTWH is responsible for direct oversight of the Road Safety Policy	The approach taken by the U.S. DOT towards addressing safety is more integrated. The Safety Council was developed to address cross-modal safety challenges by leveraging the existing expertise within its transport sector.

PARAMETERS	JAMAICA	UNITED STATES
	implementation process; there is also a NRSC; concerned only with road safety issues (one mode of transportation). There are independent safety standards and regulations for the maritime and air transportation sectors; in both cases there are also international safety obligations.	
Role of the NTP/ Transportation Strategic Plan in Advancing the Transport Sector and the Economy	The NTP has been incorporated into some processes within the Ministry. A major attempt towards achieving this was the use of this document by the PIOJ as a primary background resource in developing the Jamaica Vision 2030 comprehensive and Transport Sector plans. The absence of a NTS (which were to have been developed following the development of the NTP) renders the Policy less useful than it could be in informing measures to enhance its role in advancing the economy.	The U.S. DOT Transportation Strategic Plan provides the level of details that facilitates inter and intra sectorial assessment. Therefore, decisions can be made based on the strategic impacts that transportation can have on advancing the economy. The case of the U.S. indicates that having a strategy in place does not automatically result in a solution to all problem, or the elimination of all issues; it does however, contributes to better and more timely decision making that has far-reaching impacts even beyond the sector.
Levels of Decision Making and Autonomy in the Transportation Planning Process	The level of autonomy in respect to the functions of the MTWH and its Agencies is determined by the various legislative and policy provisions within the overall government structure (as outlined in Chapter 4). The Cabinet (consisting of Government Ministers), the MTWH (portfolio Minister, Permanent Secretary and Directors at particular levels) and the Agencies (Board of Directors/ Heads of Agencies) are the main players in the decision-making process; ranging from high to low in terms of decision-making authority). The most critical decisions are made at a high level, and are primarily centralized.	There are varying degrees of autonomy within the U.S. transportation system. The U.S. Congress, U.S, DOT, State DOTs, (all the Agencies coming under the U.S. DOT with representation at the State levels, this includes FHWA, FTA etc.), MPOs, City and local governments; this represents a rough indication of the structure of the decision-making from the highest to the lowest levels. There are varying extents of delegation among the decision-makers; the structure in place facilitates more decentralized decision-making, this is mainly because the transport planning process is a very involved one which tends to include many stakeholders who also represents the interests of the respective entities.
Priorities reflected by the Transport Sector Budgets	Road Transport accounted for the greatest portion of the GOJ's recurrent budget in the 2012-2013 FY (in particular the line item associated with improving public transportation). Under the Capital A and Capital B Budgets, the most	The U.S. DOT's 2012-13 Budgets showed a significant percentage of the estimates being earmarked for the Federal Highway Administration (FHWA) to facilitate work in rebuilding roads and bridges; Federal Transit Administration (FTA), for improving the transit system;

PARAMETERS	JAMAICA	UNITED STATES
	significant portion of the budget estimate was earmarked for road infrastructure (just under 70%) in the case of the former, and approximately 85% in the case of the latter. This shows that most of government's budget for the transport sector has been dedicated to road infrastructure improvement and development. It should be noted also that some of this work is routine while others are rendered necessary by natural disasters.	and the Federal Aviation Administration (FAA). The allocations for these entities amounted to approximately 55%, 17% and 14% for highways, transit and air transportation respectively of the estimated budget.
Funding Mechanisms (How the sector is financed)	Jamaica's transport sector is funded through internal and external sources of revenue. *Internal sources include:* - Central Government (through funds obtained from production and consumption taxes); - Levies from non-tax activities; - Capital sources; and - Grants *External sources include:* - Loans from bilateral and multi-lateral agencies; - Public-private partnership; and - Tolls	Transportation in the U.S. is funded through various mechanisms, the funds are generated from: - income tax; - sales tax; - tolls; - bonds; - state, local, and federal excise taxes on various fuels; - state infrastructure banks (SIBs); and - credit assistance sources - PPP
Mechanisms for allocating funds to Transport Projects (within and across modes)	There is no established mechanism for allocating financial resources among transport projects; the process has the potential to be severely affected by the levels of subjectivity to which it remains open. However, annual programs (with costs included) are developed by the entities that come under the Ministry; these are used to inform the budgeting process. The means of determining what gets funded as opposed to what remains unfunded is not decided based on an established procedure. This remains a significant challenge for Jamaica because of the inadequacy of	The U.S. DOT undertakes financial planning alongside transportation planning where it may or may not be required to demonstrate fiscal *constraints*[22] depending on the source of the mandate to prepare the plan. Priorities are determined at different scales and this in turn helps to determine what gets funded (within the overall sector and more specifically within each mode). Some of the factors that impact which project gets priorities for funding include the job generation capacity, contribution to the economy and the extent to which it contributes to sectorial and cross-sectorial goals. The

[22] Fiscally constrained plans are plans where the there is a balance between the anticipated costs and the expected revenue from various sources.

PARAMETERS	JAMAICA	UNITED STATES
	funding for the sector, and also the budgetary impacts of natural disasters almost on an annual basis. The impact of politics on the process is a factor that is often overlooked.	impact of politics cannot be overlooked in this regard as well.
Planning Functions within the Transport Sector	These functions are undertaken by the MTWH in as far as developing projects and programs. The various entities develop their respective plans that are submitted to the Ministry, this includes corporate plans. The Ministry does not have in place a routine comprehensive and integrated transport planning process that is spearheaded by the Ministry and takes into account the plans of each transport subsector. The development of the NTP represented a move in this direction, however, the strategies are lacking and at this stage the NTP is also due to be revised. Establishment of an effective planning process could help to optimize the allocation and investment of the limited available resources that are available to the sector.	The planning functions within the U.S. transportation sector are undertaken at different levels and over different planning horizons. The established planning process undertaken by the U.S.DOT includes the basic six steps: - The monitoring of existing conditions; - Forecasting future population and employment growth, including assessing projected land uses in the region and identifying major growth corridors; - Identifying current and projected future transportation problems and needs and analyzing, through detailed planning studies, various transportation improvement strategies to address those needs; - Developing long-range plans and short-range programs of alternative capital improvement and operational strategies for moving people and goods; - Estimating the impact of recommended future improvements to the transportation system on environmental features, including air quality; and - Developing a financial plan for securing sufficient revenues to cover the costs of implementing strategies.
Initiatives to encourage transparency and eliminate corruption in the sector.	The Office of the Contractor General (OCG) is the watchdog entity which aims at ensuring that there is transparency in government processes and that corruption is kept in check. The Office of the Contractor General was established under legislation (*the Contractor General Act*) which empowers the Contractor General to, among other things, ensures that government processes and	The U.S government has recognized the negative impact that corruption can have on the performance of its machinery as it relates to the various sectors. Consequently it has put measures in place to reduce the incidents of corruption in the transport and other sectors. A major initiative in this regard is geared at increasing transparency, participation and collaboration of the

PARAMETERS	JAMAICA	UNITED STATES
	procurement activities are fair, equitable and transparent. The procurement and contracting processes of the MTWH are subject to the rules and procedures of the OCG.	government and its stakeholders through the implementation of the U.S. DOT's Open Government Initiative.
Public participation in the transport planning process	The policy development process that governs this practice within GoJ entities, including the MTWH and its Agencies, requires that public consultation be carried out at various stages of the process.	The US DOT has included in its Strategic Plan, measures designed to ensure that there is public participation in the transport planning process. These include providing avenues for these stakeholders to provide their input. Among these measures the Open government Initiative and the Federal Register (which facilitates input in the legislation, regulations and policy development processes.
Disaster mitigation and management within the transport sector (general and/ or mode-specific).	Jamaica by virtue of its location is susceptible to a range of natural hazards. Since it is almost certain the country will be impacted by events such as storms, hurricanes, landslides, floods, earthquakes etc.; it is therefore recognized that the planning and policy development process should make provisions for dealing with the potential that any of these events could occur. However there is no dedicated plan that deals with this aspect of the transport sector. The NTP identifies the need for a Disaster Mitigation and Management Plan to be developed for Jamaica, especially considering the levels of expenditure that is occasioned by natural events on an annual basis. This situation often affects the government's ability to undertake the necessary planned road infrastructure and development works. The preparation of this plan is another area of the NTP that remains to be implemented.	The Transportation Strategy addresses the issue of training the staff to be ready to deal with defense and natural disasters. There were no provisions included in the Strategy, however, that relates to designing transport infrastructure and services in light of natural disasters. Hurricanes, tornadoes, floods and other natural events can impact the transport sector in a number of ways and should be explicitly addressed among the strategies developed. In cases where they may have been addressed by other sectors, the transport sector needs to highlight these collaborations where they exist. An area of potential man-made disaster on which the U.S. has placed tremendous emphasis is on the matter of terrorism, especially post 9/11.
The role of technology in improving the performance of and advancing the transport sector	Jamaica's NTP does not address the role of technology in enhancing the growth and performance of the sector. It could, however, be considered as implicitly stated in	Technological advancements and use plays an important role in the transformation and improvement of the transport sector. The evolution of vehicle, fuel,

PARAMETERS	JAMAICA	UNITED STATES
	some of the policy issues and objectives highlighted. The significance of the impact and potential of technology on the state of the sector requires that it should be addressed as a special topic within the NTP and eventually in the NTS. For example, this will include consideration for increased and more diversified use of intelligent transportation systems (ITS), fuel and vehicle technology among others. Also critical within the context of Jamaica is the need for the Policy to address the topic of technology transfer and any possible issues that might arise.	construction and information technologies is areas of prominence where technology is being used to transform the landscape of the transport sector. Among the strategies highlighted by the DOT is one which indicated the intention of the DOT to manage information technology assets and data to reduce the cost of investment management, increase productivity, enhance records management, data sharing, collaboration, reuse and information sharing. More real time data is being incorporated into the transport planning and operations processes.
Transport sector program evaluation and monitoring	The Agencies and the MTWH has reporting responsibilities under the PBMA Act and the GOJ's PSMP. This includes the preparation of Annual Reports and the submission of performance monitoring reports to the Ministry's Corporate Planning and Performance Monitoring Unit on a quarterly basis. The Act and the Ministry sets out the reporting requirements and report formats, as well as timelines. The Ministry's planning and coordination machinery and capacity across all levels of the sector needs to be strengthened in order to make it as effective as possible.	The U.S. DOT views Program monitoring as a critical aspect of assessing the performance of the transport sector. This is made mandatory by the Government Performance and Results Act (GPRA) of 1993 and the GPRA Modernization Act of 2010. Under these statutes, agencies are required to evaluate the extent to which the objectives of the various programs that are developed (including under the Transport Strategy) are actually met. This legislation specifically stipulates the required format and contents for these reports, as well as the reporting timeline.
Provisions of the Transport sector that ensures that the transportation needs of the transportation-disadvantaged groups of the society are met	There is no legislation that mandates that certain actions be taken by the transport sector in responding to the need of persons with disability; however, the *National Disability Act* has been in the process of being developed since the early 2000s but have not yet been promulgated. Jamaica however acknowledges the *United Nations Conventions on the Rights of Persons with Disability* and has been taking steps to address the short comings (albeit at a very slow pace); based on this convention, a *National Policy for Persons with Disability* was passed in 1999 (PIOJ, 2009b).	There are explicit requirements of the transport sector stipulated under the Americans with Disabilities Act as it relates to its obligations to meet the needs of the population with disabilities. This addresses the provision of adequate facilities and services. At the federal government level there is an Office of Small and Disadvantaged Business Utilization that oversees the Disadvantaged Business Enterprise (DBE) Program, this enterprise is aimed at increasing the involvement of the disabled in the state's planning and programing efforts. The three main transportation

PARAMETERS	JAMAICA	UNITED STATES
	The NTP includes a policy objective to use the capabilities of the transport sector to alleviate poverty and enhance the provision of transportation for the vulnerable. However, there is still tremendous room for more focused attention on the needs of persons with disability in terms of transportation infrastructure developments and services (although some strides have to date been made in this area).	organizations that ate involved with the DBE Program are the FHWTA, FAA and FTA. Human Services Transportation (HST) is among these programs; it provides special transportation services for persons with disability, the elderly and individual with lower incomes (mainly to facilitate access to economic activities and employment). An ongoing criticism of the system is the lack of coordination that currently exists among the stakeholders and programs.
Coordination of the transportation and spatial planning and development efforts	The NTP speaks to improving the level of integration and coordination of roads and developments. The extent to which spatial planning and transport planning efforts are brought together should ideally be extended to incorporate all modes because of the implications that the development of associated facilities may have for the development arena and vice versa. This is currently not the case, only the National Works Agency (NWA) assesses plans to determine the potential impact of the development on the capacity and operation efficiency on main roads, a current narrow scope of the process. In practice, however, the MTWH has provided input into more recent planning activities; and acknowledges that it is important to make this mandatory.	The Livable Communities Initiative is one of the strategies highlighted in the Transportation Strategic Plan that might be used to coordinate activities in these two sectors. It may be implied that there will be collaboration and coordination of the U.S. DOT with other relevant entities under this program.
Measures to reduce the impacts of the transport sector on the natural environment	The NTP recognized the need to promote conservation and energy protection within the transportation sector. The impacts of the transport sector are far-reaching and diverse, the extent of which is not reflected in the NTP, but is nonetheless very important to any discussions about sustainability for the sector and the country as a whole.	The Environmental Protection Agency (EPA) has developed many Legislation, Regulations and Rules that are implemented through a range of Programs on a state by state basis. These provisions target various aspects of the natural environment, including Air and Water Quality; they are implemented through various mechanisms that are spearheaded by the EPA and very often tailored to address the pertinent needs of each State (which may vary).

PARAMETERS	JAMAICA	UNITED STATES
Data collection mechanisms to aid decision-making in the transportation sector	The lack of data (especially timely data) on various aspects of the transportation sector is has impacted the ability of the MTWH to undertake adequate transport planning. The implementation of the NTP will require the collection and use of accurate data on various aspects of the transport sector (all modes). The preparation of the NTS can be used as an opportunity for collecting real-time (or generally more timely data) to be used in the transport planning process. In addition to collecting the relevant data, data standards are equally important to facilitate data sharing.	The U.S. DOT's Transportation Strategy is very strong on the incorporation of data in the planning process. Each strategy requires the development of performance indicators which must be informed by the relevant data. Essentially, the U.S. DOT has incorporated data collection into their routine processes. ITS is being used in the data collection process across modes, in addition there are efforts to standardize the data collection procedures. Standardization of the data collection process is deemed important as it facilitates data sharing and more accuracy in the data analysis and ultimately decision-making.
The recognized role of transportation in improving neighborhoods.	The NTP speaks to enhancing the access of rural communities to transportation and transportation services. It does not address an integrated approach to the planning process, which would add credence to its prospects for achieving this objective.	The Livable Communities Initiative undertaken by the U.S. DOT is geared at achieving better neighborhoods through integrating transportation with other factors.
Considerations for non-traditional means of transportation in the system (this may be culturally defined and consequently may vary).	The NTP addresses non-traditional modes of transportation; within the context of Jamaica these were identified as: pipelines, Jamaica Defense Forces, tourism and pleasure boating and banana monorails.	The U.S. DOT Transportation Strategy does not consider any "non-traditional" means of transportation. It however, explores the use of more advanced transportation technology in terms of vehicles and infrastructure.

Source: Author, 2013

5.11 Conclusion

An evaluation of the institutional, administrative and legislative structures that guides the operation of the transport sector in Jamaica and the U.S. has demonstrated that there are some differences, as there are similarities. *Table 5.4* provides a general comparison of the transport sector in both countries. The extent to which these differences and similarities are readily obvious is largely dependent on the difference in the size of these countries and hence the scale of occurrence in each case. Another factor that clearly resulted in differences in the observations is that the two countries are at two different levels of development (the U.S. being more advanced that Jamaica) and as such the U.S. tends to have significantly more resources at its disposal, as a result of which the level of technological advancements and application within the U.S'. transport sector is much greater than that in Jamaica. Culture varies and is a prime determining factor in how certain activities are undertaken within the transport sector. For example, in the case of the U.S. the importance of data collection is acknowledged, and whereas there is still room for improvement, significant strides have been made in this area, hence improving the decision-making capacities of their authorities. On the other hand, in Jamaica the importance of data to the decision-making process has been acknowledged, however, there seem to be a lack of will (and resources) to invest in the needed administrative structures to put the necessary processes in place for collecting data to enhance the capacity of the Ministry and by extension the GOJ to plan effectively. Consequently some of the issues facing both countries differ, and in cases where they are similar, there are different levels of priorities placed on addressing them.

The U.S. is more advanced in its planning efforts for the transport sector and in articulating a clear and integrated direction for the sector as a whole, taking into account all the different modes of transportation. This is comprehensively presented in the rolling (meaning it is revised annually) Strategic Transportation Plan that is prepared by the U.S.DOT. This plan includes the policy position of the government in regards to the vision for the transport sector; but most importantly it provides an indication of where the sector is today, where the sector is heading, the paths that will be taken to realize the vision of the sector, and a mechanism to determine when the sector is where it should be (through the establishment of targets, outcome and performance indicators). This is an indication of the benefits of having a comprehensive transport strategy in place. In Jamaica, the initial step has been taken in that a policy has been developed for the transport sector, hence providing an indication of the vision for the sector; the absence of a national transport strategy for the country, however, presents a gap in the process, and there are no clearly articulated strategies as to how the vision of this sector is to be realized. There have been efforts to boost the Ministry's planning process, however, in a piecemeal manner. The PIOJ through a collaborative effort (which included the MTWH) prepared a Transport Sector Plan, out of which emerged an Action Plan

Table 5.4: General Comparative Analysis Summary between Jamaica and the U.S.

Broad Areas	Provisions	Jamaica	United States
Institutional Structure	Overarching central government transport entity	✓	✓
	Specialized entities (by modes) at the central government level	✓	✓
	Specialized entities (by modes) at the regional/ local government level	p	✓
	Regional transport planning body	×	✓
	National level Transport Board	×	✓
	An institution dedicated to transport research and development	×	✓
Legislative Structure	Legislative provisions the guides development and operations of various aspects of the country's transport sector (all modes)	✓	✓
	Legislative and Policy register	✓	✓
Administrative Structures	National Transport Policy - Integrated Strategic Issues: - Increased private sector involvement - Improved sector coordination - User pay for transportation costs - Subsidies for social and economic benefit - Policy awareness and participation in policy development - Integration across modes - Increase access to transport and services in rural areas - Integrate transport policy, planning appraisal and integration across modes - Adequate regulations developed and enforced to meet international environmental and safety standards - Promote energy conservation and environmental protection	✓	✓
	National Transport Strategy - Integrated Strategic Issues: - Safety (across modes) - State of Good Repair - Economic Competitiveness - Livable Communities - Environmental Sustainability	×	✓
Transport Modes	Land Transport (Road and Infrastructure, Transit)	✓	✓
	Railway	✓	✓
	Air Transport	✓	✓
	Maritime Transport	✓	✓
	Pipelines	×	✓
✓ - included in NTP (may need revision), and to be addressed in the NTS × - Not included in NTP should be addressed in revision p - Partially			

Source: Author, 2013

where a number of strategies and targets were highlighted. The Action Plan provides a useful basis and wealth of information that could certainly be used in developing a comprehensive strategy; it does not

provide the level of details that is required to make such a document effective. In addition, a strategy like the policy, should not be static document, but should be revised and updated on an agreed timeline. The Ministry's Corporate Planning and Performance Monitoring Unit have processes in place that could be enhanced and coordinated with the Ministry's strategic planning efforts. This includes the reporting requirements under the various statutes and the development of the digital dashboard that provides the opportunities to link the targets that would be developed in the strategy with the operational plans of the Ministry, agencies, Units and even at the individual staff level.

The US.DOT has identified a number of issues within its transportation environment, even though Jamaica acknowledges that these similar issues exist have not been given the level of attention that is merited. Chief among these is addressing the impacts (and potential) of the transport sector on the natural environment, especially as it relates to the road transportation. There are international standards and requirements for the maritime and air transportation subsectors, which mean there is a greater inclination the government to ensure that those established standards are adhered to, because of the implication it could have for these sectors to obtain the certification needed to operate and compete on the global market. The localized transportation modes do not exert that level of burden and consequently places more responsibility on the government to ensure that the negative impacts of this subsector are minimized. It should be noted however, that although there may not be immediate and direct global implications for improving the environmental sustainability of the transport sector, there are many indirect global consequences, especially as Jamaica attempts to favorably position itself in a global marketplace that is becoming increasingly "*green*".

There clearly are benefits to having a comprehensive transport strategy; in addition to charting a course for realizing the vision for the sector; it also favorably positions the sector to leverage or benefit from any possible funding that might become available. The availability of funding for developing the sector was deemed a challenge for both countries; as pointed out in the case of the U.S for example, having an "*implementation-ready*" project increases the prospects of obtaining the required funding. It can therefore be posited that having a transport strategy in place can and does have implications for what and how activities within the sector are funded, a matter that will be explored in greater details in the *Chapter 6*.

CHAPTER 6:

IMPLICATIONS OF NATIONAL TRANSPORT STRATEGY FOR FINANCING JAMAICA's TRANSPORT SECTOR

CHAPTER 6: IMPLICATIONS OF NTS FOR FINANCING JAMAICA's TRANSPORT SECTOR

It is essential for a country to establish a clear vision for its transport sector and how it is expected to promote growth of its economy, while generally improving the standard of living for its citizens. Similarly important, is the need to determine development strategies for boosting the sector. It is evident that in the case of both Jamaica and the U.S. the ability to ascertain the requisite funding for the transport sector has been a challenge. Having a strategy in place does have implications for the extent to which funding can be aggressively sought for the sector. This chapter will cover among other things: a general assessment of funding in the transport sector; a specific evaluation of the revenue sources for Jamaica's transport sector and the challenges being faced by the country in this respect; the current global trends in transport sector financing and recently emerging innovative sources; and the impact that a transport strategy may have for funding the sector.

6.1 Funding the Transport Sector

Efficiently developed transport networks are important to all sectors of society. The development of transport infrastructure and services are expensive yet critical requirements for all countries to function competently. Generally, transportation is financed by resources garnered from the public and private sectors as well as the users of transportation facilities and services. In recent times, the inability of the government to sustain funding for the transport sector has forced decision-makers to identify ways of broadening the options. Consequently there has been an increase in the trend towards increased private sector involvement and user pay strategies in an attempt to reduce the burden that currently has to be borne by the government and by extension tax-payers. In addition, the unavailability of the needed funds has resulted in a 'less than optimum' transport sector in Jamaica. As a result, there is a need to diversify the transportation funding landscape, an endeavor that will require looking outside the realm on the traditional sources towards identifying more innovative ones. This will require the input of a number of stakeholders that are both the recipients and providers of the outputs of the sector. Transport capital flows in both directions for private investors, private lenders, and governments who are the main providers of transport finance. There is a unidirectional flow of finance towards the transport finance pool from the users, while there is a dual indirect relationship between the public (which contributes indirectly through taxes) and general beneficiaries (who may not be direct users of the facility but relies on processes that uses the developed infrastructure) of transport sector investments.

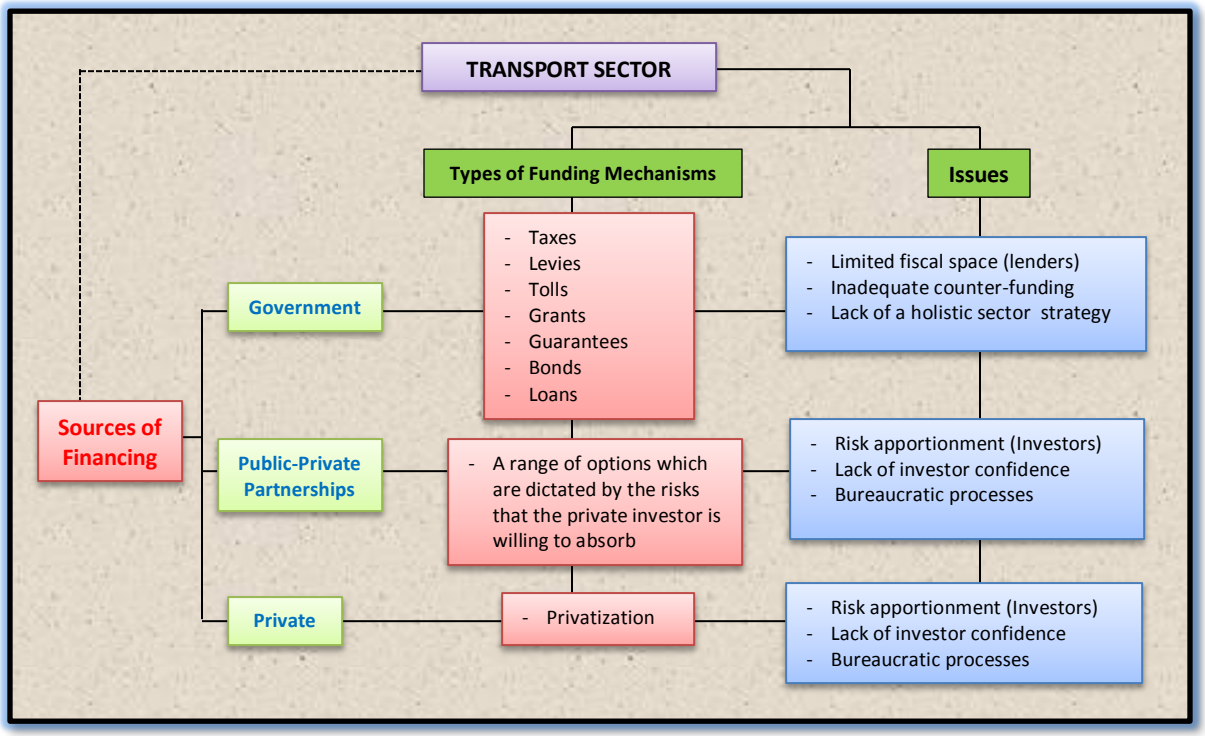
The funding characteristics of the transport sector bear some similarities across jurisdictions, however

with variation in the differences in the scale and size of the economies. The following sections will take a closer look at Jamaica's transport financing situation.

6.2 Assessment of Jamaica's Current Transport Revenue Sources

The structure of financing for Jamaica's transport sector was presented in *Chapter 4*. In order for the sector to thrive it will require that an adequate funding mechanism be in place, and for this to happen there must be a dedicated source of revenue. The development and/ or adoption of more innovative mechanisms often require that the necessary administrative and legislative structures be in place to facilitate its implementation. The GoJ, like many other governments, has sought to identify and adapt sustainable, sustaining and feasible financing instruments for the transport sector, and that are sensitive to Jamaica's fiscal realities. There are in summary, three primary sources from which funds are obtained towards infrastructure development and the provision of services within the sector; these include government, private sector and PPP funding obtained local and overseas sources. The mechanisms vary based on the different sources, as illustrated in *Figure 6.1*. In the case of the GoJ, these include production and consumption taxes, non-tax activities, levies, capital sources and grants. Funds are also derived from public-private partnerships through various loan arrangements and concession agreements; there is also the move to privatize under various arrangements (ranging from partial to total divestments).

Figure 6.1: Synopsis of Funding Mechanisms for Jamaica's Transport Sector



Source: Author 2013

Jamaica's 2012-2013 national budget was just over $600 billion, of this amount; approximately $15 billion[23] was allocated to the MTWH to finance its entire portfolio (including housing). The government has over the years relied on obtaining loans in order to meet the budgetary requirements for the transport sector, loans that are increasingly becoming more costly to the country's tax payers; this situation is also characteristic of other government sectors. The result is that with increased borrowing by the government because of its inability to generate adequate resources to service the country's budget, the country's debt levels have also increased significantly and continues to grow as interests accumulate. Consequently, the country's capacity to continue borrowing to finance transport infrastructure development is severely hampered by the significant reduction in its *fiscal space*[24]. It is therefore more critical for the GoJ to develop or adopt other innovate means of servicing the transport sector's budget. To this end, there have been numerous initiatives to diversify the funding sources in an effort to address the existing gaps. The following section provides a discussion on the nature of the funds derived from various sources, the issues associated with each and the implications for a NTS.

6.2.1 Government Funding Mechanisms

Traditionally, the primary means of funding the transport sector is through revenue generated from taxes, levies, toll, loans and securitization within the market. Over the years there has been a reliance on proceeds from motor vehicle licenses and fees to provide the resources for the development and maintenance of transport infrastructure. Added to this resource pool are loans which are obtained through bilateral and multilateral arrangements, which are essentially still required to be financed by tax dollars over the amortization period. As previously mentioned, a holistic approach is taken towards funding through the latter source, as there is competition from other sectors for the same limited resources and consequently they are apportioned based on the government's development priorities. Therefore the government has sought to secure dedicated sources of funds which have resulted in the introduction of new taxes and levies as well as increased participation of the private sector (which gave rise to increasing public- private partnership arrangements and privatization of sorts as will be examined in later sections of this research). In the mid to latter 1990s and to the early to mid-2000s the GoJ undertook numerous road improvement and maintenance activities through deferred funding arrangements; this arrangement resulted in significant strains on the government's coffers in a quest to repay the associated debts. Deferred financing may generally be described as: "*an accounting concept meaning costs associated with issuing debt (loans and bonds), such as various fees and commissions paid to contractor, investment banks and so on. Since these payments generate future benefits, they are treated as an asset. The costs are*

[23] http://jamaica-gleaner.com/gleaner/20120511/lead/lead1.html
[24] *Fiscal Space* is a new term that have been developed by the financial aid community, it refers to the flexibility of a government in its spending choices, and, more generally, to the financial well-being of a government. (Fiscal Space, 2013)

capitalized, reflected in the balance sheets as an asset, and amortized over the finite life of the underlying debt instrument. The unamortized amounts are included in other assets in the accompanying consolidated balance sheets; early debt repayment results in expensing these costs" (Deferred Financing, 2013). The result is that over the years, the GoJ has tended to veer away from deferred financing as a mechanism for funding transport projects.

The introduction of new taxes and other government revenue measures have typically been frowned upon by the general public, and as such increases the potential for fall-out with the political directorate. Decision- makers are therefore often reluctant to initiate new tax measures for generating funds for the transport sector. This is not a situation unique to Jamaica, throughout the U.S., attempts to fill the budgetary gaps through tax revenues is also a concern for the politicians, therefore they have put various legislative and administrative procedures in place which involve decisions regarding tax measures being made through a voting process. This removes the burden from the political directorate. It allow the most critical stakeholders to participate in decision-making, while at the same time ensuring that these stakeholders are involved in the planning process and that there is a unified vision on the strategies for advancing the sector; the latter is especially important in securing votes in favor of the respective tax measures. The NTP recognized the need to incorporate more user-pay principles as a way of generating some of the required funds for the transport sector; this principle is embedded in use of taxation measures.

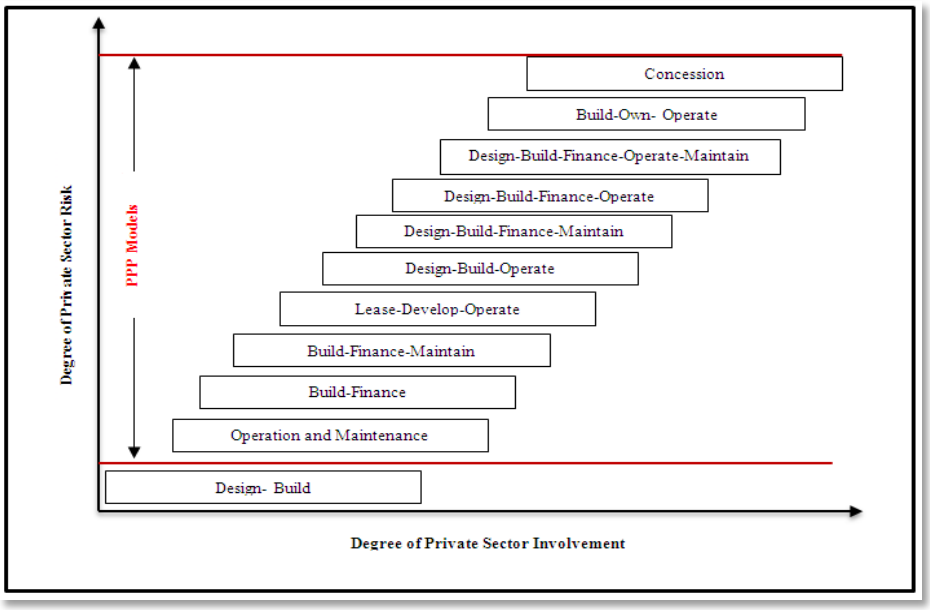
The comprehensive policy position of the government should therefore be very clear and its priorities articulated, in the absence of this structure there is a high propensity for contradictions to emerge in the implementation funding policies. In 2009, Jamaica introduced a new fuel tax arrangement (refer to *Chapter 4*), this was intended to provide a dedicated source of funds for road development, rehabilitation and maintenance. An evaluation of the NTP does not provide a clear indication of how this measure is to be integrated into the overall sector policy. Essentially, if the aim of the gas tax is to provide an increasing and stable source of fund, the policy should also logically put measures in place to increase gasoline consumption; for example by increasing in the overall VMT. On the other end of the spectrum however, the GoJ is also advocating for improving the public transportation system in an effort to increase ridership and address the problems of congestion that is consistently becoming worse; this requires a reduction in VMT by privately- owned vehicles. Essentially, there are benefits to be realized from taking either approach; however, this will require the development of integrated sector strategies in an effort to determine the level of sustainability of each strategy and how the benefits of the better option might be maximized. There must be consideration for whether the priority or strategy should be to maximize VMT (and hence also the revenue from gas taxes) or to increase transit provision and ridership. Other factors that might impact the revenue realized from gas taxes include the move towards the use of alternative-fuel

vehicles (this has also been a policy position of the GoJ); and the divergence of the tax revenue to other uses. There are similar situations that could arise in the other transportation subsectors across modes, which become more evident with a more comprehensive planning approach.

6.2.2 Public-Private Partnerships Funding Mechanisms

Private sector involvement in Jamaica's transport sector has been in both infrastructure development and services provision. The structures vary across the different modes of transportation and is directly related to the amount of risk that private investors are willing to absorb in the partnership arrangements. It is important to note the difference in the objectives of the public and private sectors in providing goods and services. The government has a social obligation to provide certain goods and services to the population, whereas it may establish subsidiaries to earn a profit for some of the services offered; there are others that cannot be provided with the aim of generating a profit. On the other hand, the primary aim of the private sector investor is to realize a profitable return on its investment. With these principles guiding the process, there are different levels of private sector involvement in the partnership arrangements, as shown in *Figure 6.2*; these are commensurate with the risk appetite of the private investor. There is also a direct relationship between the level of risk and the size of profit that can be realized, the greater the risk the greater the returns. These arrangements range from the operations and maintenance projects where there is very little risk and hence very little involvement by the private sector, to the higher risk concession arrangement, which has the greatest degree of private sector involvement and associated risks.

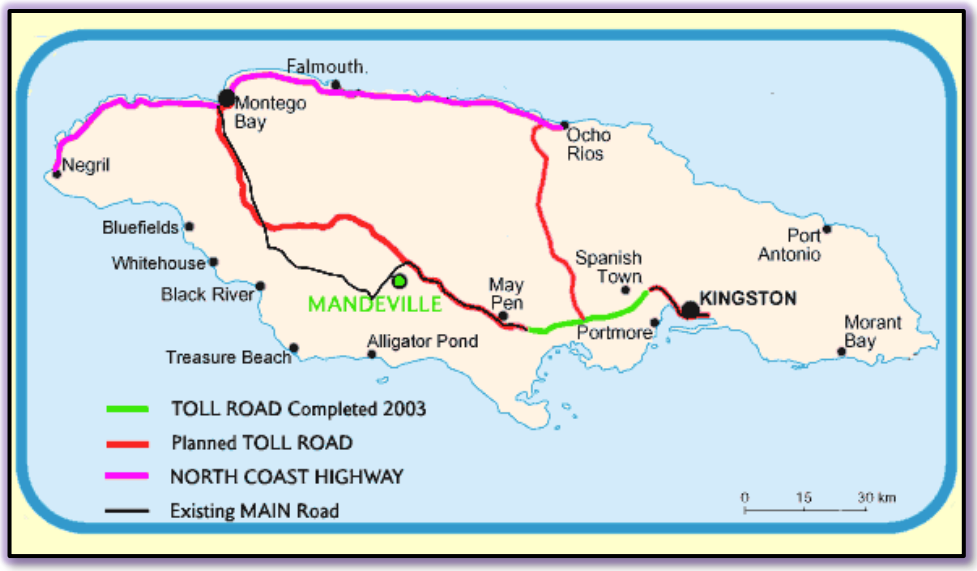
Figure 6.2: The Range of Public Private Partnerships, Risk Transfer and Private Sector Involvement



Source: Info Dev and ITU, 2012

As seen in *Figure 6.2*, the spectrum for private sector involvement is very wide and varied. In order to increase private sector participation there is a concomitant need to put measures in place to boost the confidence of investors in the sector. This means a reassurance of the pivotal developmental role of the transport sector and an indication of how its policies are aimed at increasing its competitiveness in the global arena. In order to accurately demonstrate this, there is a need to ensure that the policies and strategies of the sector have not been developed in a vacuum, but rather demonstrates inter-sectorial linkages and analysis, and therefore demonstrates a compatibility with the country's overall development vision. The development of the islands' two international airports and Highway 2000 (Jamaica's first tolled road) are among the major transport sector projects that have incorporated public private partnerships with a significant level of private sector involvement. Tolling is fairly new to Jamaica, to date one toll road has been developed, Highway 2000 which is planned to be an expansive road network. This tolled highway network development still continues to date (see **Figure 6.3**).

Figure 6.3: Jamaica's Tolled roadway Highway 2000 (Completed and Planned)



Source: www.businessuiteonline.com, 2013

There needs to be a commitment on the part of the GoJ to use tolling as a measure for funding the sector. In the U.S. for example, legislative measures are implemented to facilitate the use of tolling as a major cost recovery and revenue measure for funding infrastructure development:

> *"Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, which authorized funding levels and policy for highway, transit, and safety programs for the 1992 to 1997 period. ISTEA also established United States Federal Highway Administration (FHWA)*

> *Value Pricing Pilot Program. The pilot program allowed the implementation of variably priced tolls on the Interstate Highway System on a test basis in up to 15 states. This was a particularly novel development because if represented the first time since its creation that tolls – and ergo PPPs – could be used to undertake improvements on the Interstate Highway System… The Value Pricing Pilot Program was continued in Transportation Efficiency Act for the 21st Century (TEA-21), which authorized funding and policy from 1996 to 2003. By the end of the TEA-21 authorization period, there were a total of four HOT lane facilities in the United States"* (Perez, 2006)

Subsequent to these measures the use of PPPs have become commonplace among the options for funding transport infrastructure development throughout the U.S., in excess of 20 States[25] have passed legislation that will action the use of PPPs to undertake infrastructure development projects. This is a demonstration of the federal government's commitment to creating a PPP-enabling environment for investment in the transport sector.

6.2.3 Private Funding Mechanisms

Privatization is the chief method of funding in this category of transport funding mechanisms; it describes *"the transfer of programs from the public sector (i.e. government) to the private sector. It is also referred to as "de-nationalization." Private market actors can often more efficiently deliver many goods or services than the government due to the free market. In general, over time this should lead to lower prices, improved quality, more choices, less corruption, quicker delivery and less bureaucratic red tape* (AWF, 2012). There are different types of privatization, ranging from public-private participation (which was previously assessed in category by itself) to divestiture where the government sells government operations and as such represents a more "private-sector intensive" version of privatization. In 2010 the privatization of the country's national airline, Air Jamaica, was effected through an agreement with Caribbean Airlines, the national airline of Trinidad and Tobago. The decision was taken to divest Air Jamaica because of the strain it was creating on the government's finances as a result of its requirements for heavy subsidization of its operations.

The GoJ currently faces similar issues with providing certain services and maintaining particular operations within the transport sector, one of such areas is the Jamaica Railway Corporation. Over the years, the rail service in Jamaica has been ailing this has resulted in the discontinuation of the passenger rail service that was once provided to throughout most of the island. Today, only sections of the rail network remains operational, this coincides with those sections that have been leased to the bauxite companies. Approximately 80%[26] of the rail remains out of operation to date, and requires significant

[25] Perez, 2006
[26] Derived from http://en.wikipedia.org/wiki/Transportation_in_Jamaica

repairs. The exorbitant sum that will be required to rehabilitate the rail lines is beyond the present scope of the GoJ's financial capacity. Consequently, an investor or investors are being sought in the quest government's quest to resuscitate Jamaica's railway system, possibly through a privatization of various aspects of the railway operations. Currently, freight is transported primarily by trucks, a situation which has created challenges of its own because of the wear and tear that this has caused to the road network throughout the island. There is also the concern from an economic feasibility perspective regarding the length of time that freight transportation takes on the road versus if rail infrastructure was being used, and how this translates into dollar values.

The government is clear regarding its desire to rehabilitate the rail; however, the contextualization of the potential of the rail within the framework of the broader development for the transport sector and the country as a whole can increase the attractiveness of the rail to investors. Rational investors make decisions based on an understanding of the wider and more comprehensive context of the area they are looking to invest in; consequently, there should be integrated sector strategies in place to inform the process. However, despite the many approaches that have been taken towards funding the transport sector in Jamaica, it is still disposed to many of challenges.

6.3 The Challenges faced by Jamaica in financing the Transport Sector

The most prominent challenge facing the transport sector is the lack of sufficient financial resources, an issue that is consistently worsening especially in light of the global economic crisis which emerged around 2007-2008. Other related factors that have had negative effects on the funding situation in Jamaica's transport sector are:

- The absence of a prioritized set of strategies aimed at increasing the financial resources available to the overall sector through the manner in which the available financial resources are expended/ invested;

- Instituting a systematic basis on which the limited resources available to the sector are invested, that is an established system of prioritization among and within the transport subsectors;

- Unclear linkage of some transport projects with development plans or the established vision for particular areas; an adequate demonstration of their ability to promote economic and other gains, which is implicitly a major factor which determines the level of political support for a project (in other words determining the extent of the impact of project to be financed, a task that must transcend the transport sector). Another important consideration is the extent to which transport projects can and does provide employment;

- The time frame for securing a funding agreement in relation to the timeframe for infrastructure development and the consequent impact of inflation on project costs;

- Getting the local population to accept the *user-pay* concept, and to be more willing to contribute to the costs of transport infrastructure and services provision;

- Identifying innovative funding sources, not to replace, but to supplement the traditional ones which have failed to adequately meet the demands of the transport sector. In this regard, the private sector is viewed as an important player that is expected to be visibly involved. An impeding factor, however, is the high levels of risks that such an investor might have to take, considering the state of the global and local economies at the time;

- The ability of the sector to stay current with global trends, this is especially critical if it is to become and remain competitive. This includes innovations in funding, and also the technological advancements that have been developed to enhance efficiency in the administration and operation of the sector; and

- The restriction presented by the GoJ's current borrowing capacity (fiscal space); this issue surpasses the transport sector and includes the overall financial state of the entire country. Jamaica's current debt situation has resulted in it having to seek the help of the International Monetary Fund (IMF). This resulted in the Executive Committee of the IMF approving a 27 month *Stand-By Arrangement*[27] in the amount of approximately U.S. $820 Million (IMF Stand-by Arrangement, 2013). The conditions of this program relates to three areas: (i) fiscal consolidation and institutional reform; (ii) public debt restructuring; and (iii) financial sector reform.

If the visions for transportation in Jamaica are going to be realized it is important that the decision-makers not be restricted by the challenges that exist but rather formulate strategies that acknowledge these issues with a view to addressing them. Although Jamaica has its own endemic circumstances, there are other territories that are facing similar circumstances and have developed and applied innovative funding measures from which they have benefited to varying extents, Jamaica therefore stands to benefit from these experiences.

[27] The **IMF Stand-By Arrangement** (SBA) is an economic program of the IMF involving financial aid to a member state in need of financial assistance, normally arising from a financial crisis. In return for aid, the economic program stipulates needed reforms in the recipient country aimed at bringing it back on a path of financial stability and economic sustainability IMF Stand-by Arrangement. 2013

6.4 Global Trends in Transport Financing and Emerging Innovative Sources

While Jamaica seek ways to deal with the current challenges that faces its ability to finance the transport sector, the countries of the globe, some of which face similar issues but at differing magnitudes, are pursuing new ways of realizing the needed financial resources. The emerging trends are characterized by a shift in the traditional approaches being taken to funding the operations and management of the sector, which is increasingly being viewed as a system, rather than from the perspective of its isolated component modal parts.

Other trends includes additional measures that might be taken towards generating additional revenue for the transport sector. They also include a shift in the governance structure, allowing greater participation of the main beneficiaries in the decision-making process especially for the provision of surface transportation. In addition to PPPs, other approaches being employed by the U.S. and other jurisdictions include the application of impact fees, the concept of value capture, and voter-approved transportation funding

6.4.1 Impact Fees and Value Capture

The direct relationship that exists between transportation infrastructure and development means that there is a strong prospect for new transport infrastructure development to become increasingly attractive, and the value of properties that are located adjacent to these could increase. Two concepts that have been explored by other countries including the U.S. are *impact fees* and *value capture*. These ideas are concerned with the prospect of obtaining some of the benefits realized by these developers and users of the adjacent properties. The amounts obtained in such cases are reinvested in transport infrastructure.

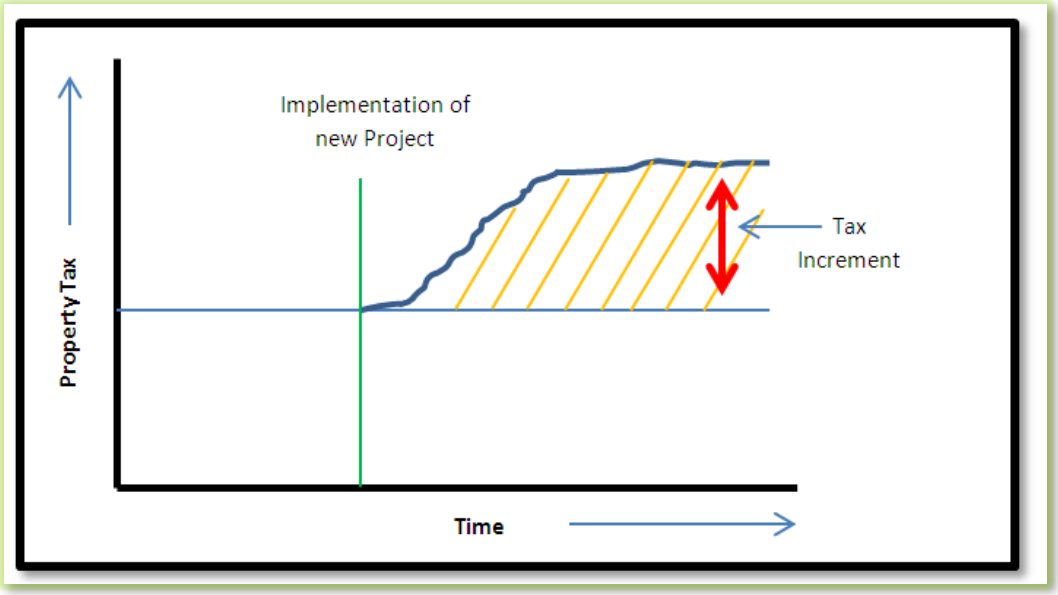
Impact fees

According to the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC), (2012), an impact fee may be defined as "*a charge on new development to pay for the construction or expansion of off-site capital improvements that are necessitated by and benefit the new development…Impact fees are intended to charge new users for the full costs of the infrastructure that they require."* For impact fees to be charged there must be a *nexus*[28] between the transport infrastructure development and the adjacent property; in which case developers pay money into a pool of funds for financing the provision of infrastructure. This is classified as an *on-time* fee. As illustrated in *Figure 6.4*, the implementation of a new transport infrastructure project (such as a new road development) over time

[28] The legal definition of a nexus may vary with jurisdictions.

results in an increase in property value and a simultaneous increase in the tax increment associated with the subject property.

Figure 6.4: Illustration of "Value –added" Impact of New Project on Adjacent Properties



***Source**: Derived from Course material in Transportation Administration (CEE 6605) at Georgia Tech*

A definition within the context of how tax increments are applied in an area of Los Angeles, California, indicated that *"Tax increment comes from the increased assessed value of property, not from an increase in the tax rate to private citizens. Any increases in property value, due to the change of ownership or new construction, will increase tax revenue generated by the property. This increase in tax revenue is the tax increment that goes to the Agency"*. The NSTPRSC (2012) also stipulated that *"[an] Agency cannot increase private property taxes through the issuance of bonds or at any other time"*. The other concept that is similar in nature is called *value capture*.

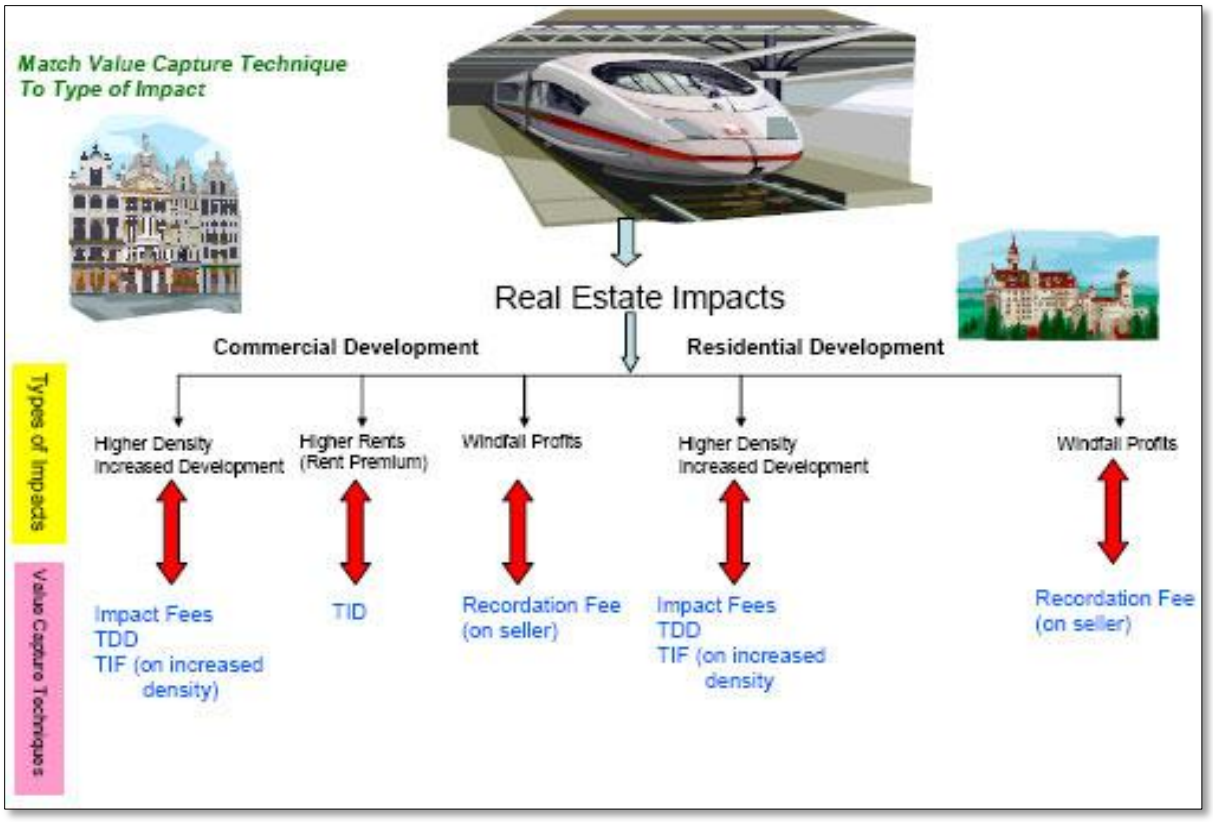
Value Capture[29]

The concept called Value Capture "refers *to the process by which all or a portion of increments (i.e., windfall gains) in land value attributed to 'community interventions' (e.g., transportation improvements) rather than landowner actions are recouped by the public sector… value capture finances new infrastructure by charging the property owners and developers who benefit from increased property values created by the infrastructure."* (NSTPRSC, 2012). In the U.S. special administrative units are established for administering this process; these units are referred to as transportation districts. There are

[29] Also referred to as *Revenue Capture*

three financing district arrangements that were set up; these are: Transportation Development District (TDD); Transportation Improvement District (TID); and Tax Increment Financing District (TIF). *"TDDs impose impact fees on developers or property owners for the cost of off-site transportation capital improvements needed to serve a new development… TIDs impose improvement fees on all property owners within the district… A tax increment financing district is a mechanism for capturing all or part of the increased value that occurs due to a transportation improvement"* (NSTPRSC, 2012). *Figure 6.5* provides an illustration of the potential revenue capture as seen by the NSTPRSC, 2012. In applying this method a set of parameters were developed within an evaluation matrix which facilitated comparison of the three districts on this basis.

Figure 6.5: Land Use Impacts generated by Transportation and Potential Value Capture



Source: (NSTPRSC, 2012)

Whereas these mechanisms are not expected to meet the full gamut of tranportation funding needs, it could raise significant revenue that could supplement that from other sources. These are useful prospects that should, however be assessed within the broader context of the development plans and vision for the country. In order for the potential of these mechanisms to be gauged, an integrated and multi-sectorial approach will be vital to the process. In addition, it will also require an evaluation of the legislative and

institutional implications of this approach, as well as the feasibility of effecting the varied adjustments that may be required. The lessons garnered from the U.S. (which has applied this mechanism in a number of States) could be factored into evaluating whether this would be an appropriate mechanism for Jamaica. Even in the U.S. where these procedures have been applied, it has not been without its challenges which include: the legal, financial, and political barriers; and the speculative nature of how benefits to be derived are determined (based on anticipated future growth), among others. It should also be determined whether aspects of these measures might be appropriate although they may not present a good fit when taken as a whole.

The imposition of such fees on development must be critically assessed to also determine the possible impacts it may have on potential investors' interest in undertaking development in Jamaica. They therefore, should ideally be evaluated in conjunction with the incentives that are (or could be) provided to developers in order to determine whether or not these mechanisms might have the intended positive impacts. There are also further constraints that may be experienced with the use of impact fees, based on the U.S. experiences these included:

- the associated revenue are collected at the local government level but are designed to be spent by central government;
- defining the physical extent of the impact (known within the U.S. property law as a *rational nexus*);
- the ability to demonstrate that there will be some benefits and the extent of the benefits realized;
- this process might be characterized by significant administrative costs as data must be collected to substantiate the various claims; and
- the equity of how fees are determined and distributed.

These processes presented two of the many emerging trend to which governments are currently looking to supplement the currently inadequate transport sector budgets. The innovative approaches are not restricted purely to revenue generation, but are also seeking to optimize the governance and administrative structures towards increasing the amount of funds that are allocated to the transport sector and by what means.

6.4.2 Voter-approved Transportation Funding

The U.S. government has implemented initiatives throughout different states where the beneficiaries of the transportation system are asked to vote on the provision of transportation funding; this is especially relevant to the surface transportation subsector. As revealed by the Surface Transportation Policy Project

(2013) *"In 2002, as many as 41 transportation measures appearing on the ballot could — if approved — be worth as much as $117 billion in new funding over the next 20 years… This emerging trend marks a significant shift in the traditional method of financing transportation projects and programs – away from legislatively-approved user fees (e.g. gasoline taxes) and towards voter-approved general revenue taxes (e.g. sales taxes, general fund budget revenues, bonds, etc.)"*. This have significant consequences not only for the generation but also for the allocation of funds among priority areas (as defined by the outcome of the voting process), and is a mechanism that could be explored within the context of Jamaica.

6.4.3 Other Funding Mechanisms

The options highlighted in this research are by no means exhaustive as there is an array of other funding mechanisms that might be explored in in this regard. Other measures include a voluntary approach referred to as the *"Developer Contribution"*; this may be the result of an agreement to give the developer access to the infrastructure being developed. Also, to a lesser extent, in some States within the U.S., a less common set of taxes that are applied are *"SIN Taxes"* (Alcohol and Tobacco), in this case the proceeds from these taxes are used to fund transportation.

While there are a number of issues that must be considered in relation to each mechanism considered they provide plausible options for the GoJ, which could strategically seek to maximize its potential in successfully implementing these measures. The government should therefore have a clearly articulated vision for the transport sector that might also be used as a framework for evaluating the funding mechanisms. There must be a good grasp of what currently exists, the dynamics of the environment in which the transport sector must function; and what is required to strategically move the sector towards realizing its vision.

6.5 How the NTS can Enhance Prospects for Transport Sector Financing

There are numerous benefits to be realized from having a NTS in place for Jamaica. In addition to stipulating a comprehensive direction for the sector, the NTS also provides a good basis for strategically prioritizing sector activities in terms of possible funding allocations to maximize the strategic outputs. The availability of clear development strategies for the transport sector will facilitate ease in the formulation of detailed project proposals. In cases where detailed project proposals are pre-prepared, i.e. funding or implementation-ready, there is often a greater chance for obtaining funding should it become available.

It was indicated earlier in the chapter that while funding traditional sources are important the GoJ should not be limited by the scope of these sources but rather, should seek innovative ways of addressing the

funding gaps that exist. The possibilities are more evident where detailed strategies exist and are collectively and comprehensively articulated. An integrated multimodal approach to developing the transport sector (as guided by the NTS) may also increase the efficiency of resource use and thus result in more resources being available for investment in areas of the sector for which no funds were identified.

Essentially, any improvement in the efficiency and competitiveness of the transport sector could have a positive impact by increasing its attractiveness to investor, therefore better positioning the country for further development. The NTS has the potential to enhance the level of efficiency and competitiveness of Jamaica's transport sector because of its role as an important planning tool which can facilitate inter and inter sectorial coordination.

6.6 Conclusion

There is a reduction in available funding while the cost of transportation infrastructure development and the need for improved services continues to escalate. Increasingly, the revenue generated through government sources falls tremendously short of the requirements for establishing a sustainable source of funds; this is further exacerbated by the fact that transport is just one of many critical development sectors that is competing for the limited finances that is at the government's disposal. The emerging global trends are seeing less reliance on public sector sources of funding, and rather moving towards greater private sector involvement in transport infrastructure development. In addition there is also an increased tendency towards adopting *user-pay* measures.

Considering the different options that were highlighted, it is essential to point out that the best funding strategies for Jamaica may not necessarily amount to a choice of one funding mechanism as opposed to another; rather it may include a suite of approaches that must be tailored to the country's fiscal realities, within a broader global context. While any substantive attempt to address the funding gap is expected to be long term, there are short-term and intermediate measures that need to be explored, and a phased approach considered in regards to the adopted measures. A NTS stands to provide the ideal planning framework within which these issues might be assessed comprehensively.

CHAPTER 7:

A NATIONAL TRANSPORT STRATEGY FOR JAMAICA: IMPLICATIONS FOR THE CURRENT NTP

CHAPTER 7: A NTS FOR JAMAICA AND IMPLICATIONS FOR THE CURRENT NTP

This chapter will synthesize the findings and analysis in an effort to put forward a set of plausible recommendations that could be instrumental in creating the framework for developing a NTS for Jamaica. It will address: the current position of the GoJ in terms of its efforts to develop a transport strategy; identify possible areas of focus for a NTS based on the local situation, global economic and development trends, and the need to make the sector more competitive on the global scale as globalization takes root and borders are removed; and recommend some areas of the current NTP that should be considered for revision (assuming that the revision of the NTP will also be a part of the process to develop the NTS since its revision imminent).

7.1 Towards a Transport Strategy for Jamaica

The GoJ took the initial step to streamline and channel development of the transport sector, with the promulgation of the first National Transport Policy in 2007, prior to that however, the importance of this sector to the country's overall growth was acknowledged in the NIP of 1996. It is clear from the literature reviewed as well as the case study assessed, that having a transport policy in place can only be effective if its development is followed by the relevant strategies for implementing the provisions of the policy. After the NTP was developed, although the next logical phase was to develop the NTS, this was never undertaken and the efforts to implement the policy have since been on a piecemeal basis. Although there is something positive to be said for acknowledging the policy through various sector activities, it is important that there is coordination and a common understanding among the stakeholders of the vision for the sector and pathways to realizing this vision. This is the purpose of a NTS, it is an important tool for materializing the vision for the sector through coordinated efforts in a manner that optimize the use of resources while at the same time positioning the sector to obtain additional resources. The recommendations provided in this chapter are by no means exhaustive but will provide a good sense of the direction in which the transport sector could be heading and some of the paths that could be considered to for getting there. It is recognized that only some areas can and will be covered in this research, nonetheless, there are other aspects of the sector that requires more in-depth studies even towards development of the transport strategy; some of these will be identified in Chapter 8.

During the process of collecting information for this paper, MTWH indicated that it has recently embarked on initial steps that are expected to eventually lead to development of a NTS. This initiative is in recognition of the need for a strategy to be in place, and as such this research provides a timely frame of reference for the Ministry's later efforts to develop the NTS. In light of this, some of the key factors

that need to be considered in developing this Strategy will be addressed in the following section; this will reflect some of the lessons garnered from the U.S. case study as well as from other literature that was reviewed for the research.

7.2 A Proposed Strategic Framework for Jamaica's Transport Sector

The NTS should be a comprehensive document for guiding development of the transport sector and should reflect an awareness of the need for addressing the relevant dynamic global and local issues. The process should identify and incorporate where possible, previous work done in this regard; chief among this are the NTP and the Transport Sector Plan that was prepared by the PIOJ (and was prepared on the basis of the provisions of the NTP). The Sector Plan was prepared with the input of many transport stakeholders and should therefore be useful in identifying some of the key stakeholders for developing the strategies. The goals of the NTS and the NTP should be aligned, these should, however, not be restricted to the goals of the *current* NTP. There are areas that have not been included in the existing policy that are important to improving the sector, enhancing its contribution to development and improving its competitiveness on a global scale.

7.2.1 Strategic Goals of the NTS

The NTS should acknowledge the current state of the transport sector while also identifying the most critical issues. These issues are normally informed by an evaluation of the state of the sector in an effort to determine the existing shortcomings that affect the efforts to get the sector to a more desirable state; it is the basis on which a prioritization framework can also be conceptualized. In order to be effective, a standard evaluation mechanism should be developed, against which all the issues could be objectively assessed to determine where each falls on the priority scale, when examined against each other. A definition of the goals of the NTS also should not be restricted by modes; the goals at the macro-level should be crafted in a manner that transcends individual sectors. The approach taken in the case of the U.S. was to identify five core goals which had varying administrative, legislative and institutional implications for the different modes of transportation. In addition to the goals that were established, the U.S. DOT made it evident that addressing the culture and capacity of the transport institutions were just as critical as focusing on the infrastructural and operational needs of the sector. Many of the strategic goals that were identified by the USDOT were also variably included in Jamaica's NTP, albeit in a fragmented manner. The general goals that were identified in the case of the U.S. could be used (with modifications) as a point of reference for defining the goals of the strategy. While there are some similarities in the types of issues faced by both countries, there is a vast difference in scale and context, as such the other goals should be considered, and of course the mechanism for prioritizing the goals must be

dictated by Jamaica's inherent situations. Among the goals that could be considered for the sector are to:

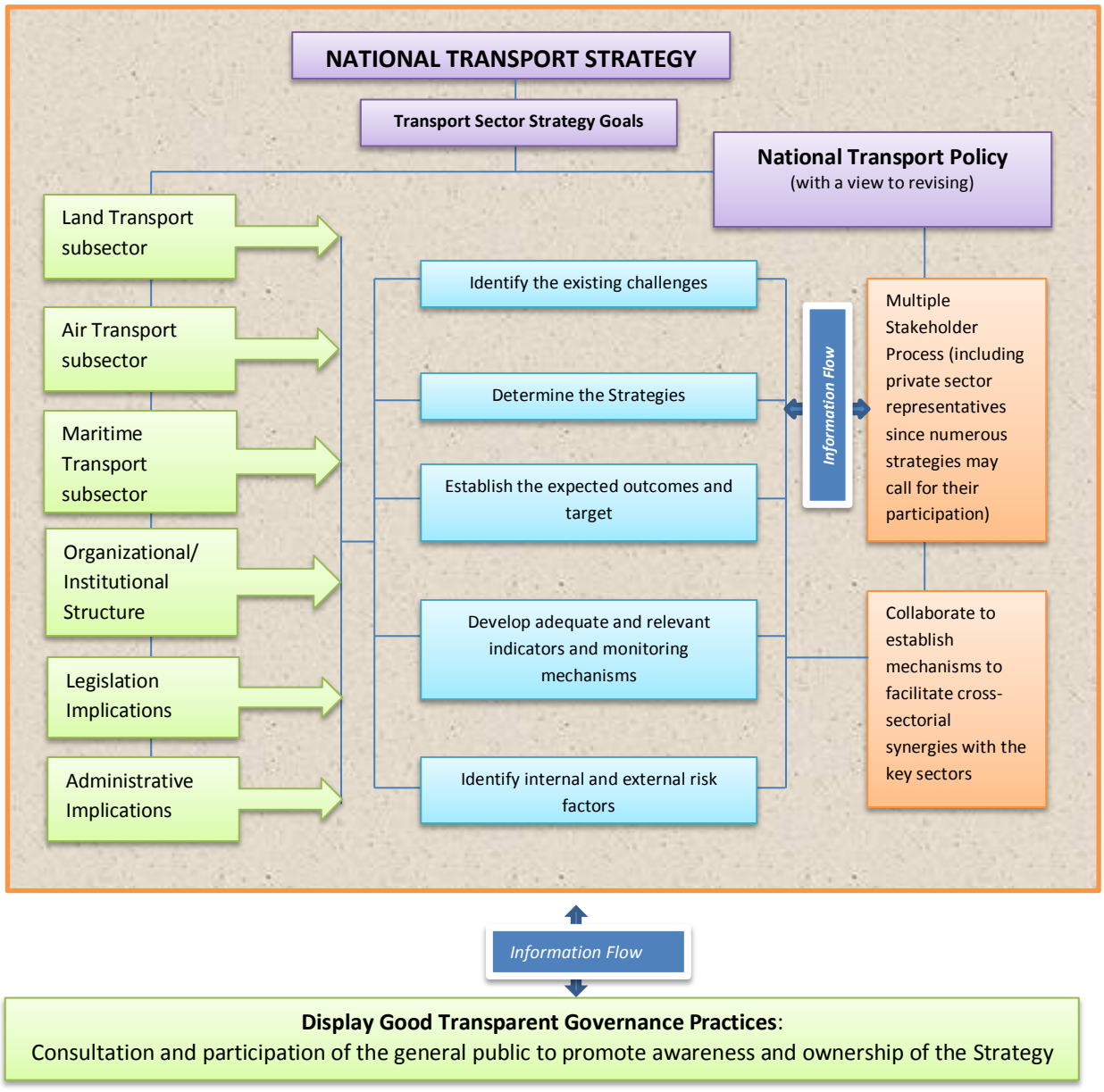
1. Enhance Jamaica's global economic competitiveness;
2. Provide a transport system that is safe (expand the focus of transport safety to transcend roads);
3. Reduce the environmental impacts of the transport sector;
4. Attain a good state of repair for Jamaica's transport infrastructure;
5. Reduce the impacts of natural events on the sector;
6. Reposition the sector at the core of the spatial planning and development process;
7. Create organizational structures and a culture that fosters inter and intra-sectorial coordination, thereby increasing efficiency and transparency; and
8. Leverage the transport sector to enhance the quality of life for Jamaicans

The NTS should include strategies for addressing the environmental impacts of the transport sector and may point to the need to develop and enforce air quality standards, testing and enforcement mechanisms, a matter that was not addressed in the NTP.

An outline of the process that is being proposed for developing the NTS is illustrated in *Figure 7.1*. The NTP should be the main reference document for the strategy; this will require that the Policy be reviewed in some areas in order to make it more current and to eliminate its shortcomings; it is critical that the goals and strategies are in sync with the provisions of the NTP. The process is to be applied to each of the transport sector strategic goals that should be agreed upon by the major stakeholders. The objective associated with implementing each goal should be assessed from the perspective of all the transport subsectors (land, air and maritime transport); also to be addressed is the implications for the organizational/ institutional, legislation and administrative structures. The evaluation of each subsector should be undertaken with a view to developing the strategies that will result in the sector goals being achieved. It should identify the existing challenges; determine the strategies; establish the expected outcomes and targets; develop relevant indicators and monitoring mechanisms; and identify internal and external risk factors.

The strategic planning should be inclusive and comprehensive; and should ideally be undertaken by a task force that is set up for this purpose. This approach is useful in bringing diversity to the process, as well as setting the stage for ensuring that there is inter-sectorial collaboration and coordination at all levels. Involving the private sector in the process, possibly through the Jamaica Chamber of Commerce, is imperative to obtaining the needed support for this sector. This is a useful strategy of sensitizing these investors and/ or investors at an early stage in the process, as a number of the strategies could point to the

Figure 7.1: Strategic Planning Process to be applied to each Goal



Source: Author, 2013

need for increased private sector involvement based on developing trends. The input of the strategic planning task force could also be sought in reviewing the NTP; this will increase the prospects for continuity and uniformity with respect to both documents. The process of developing the strategy should ideally include opportunities for public participation. This is a tactic of promoting awareness of, and transparency in the planning processes, as well as securing the buy-in of the general public (who are the tax payers that will be financing the implementation of some of these strategies); two-way information

flow is especially crucial at this stage of the process.

The process of identifying the relevant stakeholders is very important because it could affect the overall outcome of the planning process. The role of each stakeholder should be clearly established and communicated. They should also be made aware that the planning process that was spearheaded by the PIOJ will not be disregarded but rather incorporated into the Ministry's efforts at developing the NTS; this is essential for alleviating any prospect of these stakeholders taking on the view that they will be wasting time on a futile endeavor. Consequently, this process should be a planned and well sequenced activity aimed at achieving the most optimum results.

7.2.2 Strategic Prioritization

Developing an effective transport strategy will require the development of a system for strategic prioritization also to be agreed upon by the relevant parties. The prioritization efforts must however, begin with the goals and objectives of the NTS that would have been identified early in the process. In order to ensure that the process is as objective and scientific as possible a number or parameters could be developed, against which the goals and objectives are evaluated. This evaluation mechanism should be considered at two levels: (1) the sector goals and objectives; and (2) the strategic level. In both instances, the parameters that are developed should reflect logic in the sequence based on a comparison of each goal and strategy with the others.

As highlighted in the previous sections, the NTP should provide a base reference for the NTS. The current Policy, however, is due to be revised, a matter which has also been acknowledged by the MTWH. It is therefore necessary that a process also be initiated for revision of the Policy.

7.3 Implications of the Strategic Planning Process for the 2007 National Transport Policy

The NTP represents a great initiative by the GoJ to develop a vision for Jamaica's transport sector. Since this was the first time this was being done and the fact that over time the local and global environment changes, it is inevitable that in order for the policy to maintain its relevance it should be reviewed periodically. The strategic planning process is expected to reveal areas of shortcomings which could be incorporated into the NTP revision process. In undertaking this research, the literature and comparative case points to a number of areas that needs to be addressed in the Policy; although not exhaustive, these include:

i. *Data Requirements*: The Policy is currently silent on the matter of data requirements, this is the basic ingredient of the planning process and the policy should recognize its importance with respect to the administration and operation of all modes. This factor will be enhanced by having a

NTS in place because the strategies that are developed towards achieving each goal should inform the type of data that is required, and how data gathering could be incorporated into daily procedures to make the process as cost effective and seamless as possible. There are MTWH entities that are currently collecting several types of data to inform their own internal processes, in which case it may just be required that data collected by these entities be brought on par with what is required for the overall strategic planning process. Proper planning cannot be carried out if it is done on the basis of bad or inadequate data, therefore although the data collection process may be a very costly one, there is a great possibility that it will pay for itself in the long run as the decision makers are able to generate more accurate and overall better decisions. An adequate database is critical to the planning process.

ii. *The Adoption of Technology*: One of the main policy objectives that was included in the NTP is to "increase Jamaica's global competitiveness by reducing transport costs". The global village is embracing the important role that technology has to play in enhancing all aspects of all modes of the transport sector. This factor should be addressed in the NTP and the NTS also as technology evolves, these provisions should be kept current during its scheduled period of revision. Consideration for this factor will also require a position on the part of the GoJ on the matter of technology transfer, which will be inevitable if the country is to keep pace with the global technological trends. Keeping up to date with transport technology can also improve the data collection process, for example through the use of ITS.

iii. *Reducing the Impact of the Transport Sector on the Natural Environment*: This was included among strategic and integrated issues in the NTP that relates to *"promoting energy conservation and environmental protection"*. This section of the Policy was, however, focused on energy rather that environmental protection on a whole. The transport sector is a major consumer of petroleum, and also significantly contributes to a range of negative impacts on the natural environment. The impacts of transportation on the environment is not restricted to the fuel used and as such should be subject to a *cradle to grave assessment*[30] in order to obtain a more precise indication of the impacts of the transport sector on the natural environment; this kind of analysis will also be useful in developing the NTS.

iv. *Prioritization*: there is no priority outlined with regards to the issues that have been highlighted in the NTP. Although this should also be addressed in the NTS as previously highlighted, the Policy

[30] *Cradle to Grave* (also called a *Life Cycle Assessment*) is a technique to assess environmental impacts associated with all the stages of a product's life from-cradle-to-grave (i.e., from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling)- (Life Cycle Assessment, 2013)

should reflect the priorities for the sector. Prioritization is essential in alleviating possible conflicts, especially in regards to how resources are allocated. A question that must be answered is whether the annual transport sector budget allocations are truly reflective of the Policy priorities, and also where on the national priority spectrum does the transport sector fall when compared to the other development sectors. In order to make the sector more effective, there is a need to synergize the transport sector priorities with the national priorities. While priorities may change over time, this can be accounted for during the scheduled revisions of the planning provisions.

v. *Internalizing Externalities in the Transport Sector*: The policy highlights cost recovery as one of its themes. Although the externalities created by the transport sector may be as a result of the impacts on the natural environment, they are not limited to this area. Consequently, the Policy (and by extension the NTS) should include a holistic analysis of the externalities created by the transport sector and attempt to factor these into the development of cost recovery mechanisms. This is also another area that if adequately addressed, could boost Jamaica's competitiveness on a global scale.

vi. *Transportation – Land Use Relationship*: The relationship between land use and transportation has vast implications for many other sectors. The Policy should emphasize this factor and strategies be included in the NTS to create synergies with the entities responsible for national spatial planning. Currently, there is only minimal involvement of the transport sector in the planning process; this is in as far as the proposed plans are reviewed by the entity that is responsible for main roads throughout the island (NWA). There have been recent attempts by the NWA to require that Traffic Impact Assessments be undertaken for developments of a certain size and submitted with such development proposals. While this is a useful initiative it represents another piecemeal solution to an issue that should be addressed from a more holistic perspective in order to yield the best results.

vii. *Safety within the Transport Sector*- Safety is important to all modes of transportation. Currently, transport safety is addressed from a modal perspective and therefore does not include comprehensive inter-modal safety considerations. The NTP should include an integrated approach to safety in the transport sector, exploring also the possibility of establishing a transport safety body which is given the mandate of addressing and cording all matters relating to safety within the transport sector.

viii. *Catering to the needs of the Transportation Disadvantaged*: There is mention in the NTP of

measures to ensure that the transportation disadvantaged groups are provided for in the public transport system. This should be expanded to include other aspects of the transport system for which there are no mandatory requirements in this regard. This should for example include a comprehensive policy which is aimed at facilitating integration among the different modes of transport in terms of their accessibility by the transportation disadvantaged groups. Any attempt to at including and addressing this issue will require a systems approach, and also that the focus of this policy transcends the cities in order to ensure that persons who fall in this category but resides outside of the city is also provided with the necessary facilities.

ix. *Aligning the NTP (and NTS) with MTWH Administrative Processes*: The linkage between the policy implementation and other internal management, monitoring and reporting processes should be clearly outlined. This will also facilitate the elimination of redundancies and inefficiencies while fostering integration and coordination within the Ministry (and by extension its agencies).

x. *Enhancing the Capacity of the MTWH Staff and Enhancing Customer Service*: The development of sound transport policies and strategies are essential to improving the sector; however, the most valuable resources in the Ministry's transport planning process are the staff (of the Ministry as well as its agencies). Education, training and empowerment are ways of preparing the workforce to play an integral role in the planning process and not remain as by-standers while the work is done entirely by consultants. Also imperative is the need for the staff to appreciate that like any other business, there is an obligation to deliver quality services to the patrons of the transport services that are provided by all modes (this will include both local and international customers). If the sector is going to experience the level of growth that is anticipated, it must be ready to handle the diversity that might accompany such progress. This and other related matters has been the subject of the PSMP; since all these processes are a part of the same government machinery there should be some linkage established.

The day to day activities of the staff within the MTHW should be ultimately aligned to achieving the objectives of the NTP (and by extension the NTS when it has been developed). This will require that the Ministry's Corporate, Unit and Work Plans and the budgets are reflective of the goals and objectives of the NTP, and subsequently also the strategic objectives of the NTS.

xi. *Revision Period for the Policy:* The policy requires that certain provision be revised on an annual basis. A more practical revision period should be determined, in the process ensuring that it is aligned with the revision timelines that should also be established for the NTS. An outdated

policy and strategies cannot effectively serve the sector.

There are details of the Policy that leaves unanswered questions and are very specific and as such have not been included among these recommendations which are more concerned with the broader and more general issues. There are also some aspects of the Policy that appears to be in contradiction with other sections. Overall, the development of the NTS is expected to enhance the usefulness of the NTP, and ultimately the provisions of both documents will be complementary to each other and collectively provide clear directions for the sector.

7.4 Conclusion

The NTP represents a step in the right direction towards improving Jamaica's transport sector, as earlier stated however; it is a futile endeavor to stipulate a vision for the sector without a road map as to how to get there. The NTS that is being recommended for the Jamaica will represent the missing element that will fill the existing gap in Jamaica's transport planning process. This chapter provides a broad framework for developing a NTS; it also highlights some critical areas which were inadequately addressed in the NTP but to which attention should be paid, some of which are highlighted in **Table 7.1**.

Table 7.1: Summary Areas for revision/ inclusion in the NTP and NTS

SUBJECT	NTP	NTS
Data requirements	×	✓
The adoption of technology	×	✓
Reducing the impact of the transport sector on the natural environment	p	✓
Prioritization	×	✓
Internalizing externalities in the transport sector	×	✓
Transportation – land use relationship	p	✓
Safety within the transport sector	✓	✓
Catering to needs of the transportation disadvantaged	p	✓
Aligning the NTP (and NTS) with MTWH processes	×	✓
Enhancing the capacity of the MTWH staff and enhancing customer service	×	✓
Revision period for the policy	✓	✓

✓ - Included in NTP (may need revision), and to be addressed in the NTS
× - Not included in NTP should be addressed in revision
p - Partially

Source: Author, 2013

The recommendations presented are by no means the ultimate solutions, but is a foundation upon which to initiate the strategic planning process for the transport sector. It is anticipated that because of the dynamic nature of the planning environment, a number of issues will arise that also need to be incorporated into the planning process.

CHAPTER 8:

CONCLUSION

CHAPTER 8: CONCLUSION

The research has revealed useful information on the state of the transport planning process in Jamaica. It has also shown, through the assessment of the U.S. case, the prospects of what can be achieved through the development of a vision for the sector and more importantly, strategies for realizing this vision. While the comparative analysis is useful in providing a frame of reference, the lessons were taken with due recognition of the difference in the scale and context of both countries; hence it was acknowledged that in seeking to learn from the strategic transport planning process utilized by the U.S. at the federal government level both the successes and the challenges must be recognized. This final chapter concludes the research, identifying some general considerations for possible next steps, as well as other areas of research that might be useful in informing the strategic planning process for Jamaica's transport sector.

8.1 Moving towards a NTS for Jamaica

The strategic planning process is a very intricate one and should therefore be approached in an organized manner. The resulting strategic plan will serve as a useful tool for strengthening the management and monitoring of the activities of the MTW. The transport sector need not only an articulated vision, but strategies that have been developed with a broad perspective of where the sector is envisioned to be in the long term, as seen within the context of the overall development goals for the country. The Ministry has already introduced measures to enhance its performance monitoring at various level (i.e. programs, projects, entities etc.), this included the development of targets in line with the NTP; however, its effectiveness and capabilities are hampered by the absence of a sector strategy. The current dire financial state of the country (and by extension the global recession) is a key factor that should be considered, the GoJ needs to ensure now more than ever that the very limited resources are invested in the most efficient manner. The strategy can facilitate a shift from a crisis-driven approach to a more structured and planned approach to decision-making. The NTS can also facilitate the desirable linkages between budgets and legislation/ policies, and put the government in a position to be preemptive is addressing foreseen issues in collaboration with the relevant stakeholders (including potential private sector investors).

In order for the strategic plan to be effective, the decision-makers within the sector must be willing and able to effect the requisite changes towards realizing its vision. The strategic planning process although extremely useful, has been identified as also having its limitations, these include: human resource and commitment required; potential resistance to change; prospects for the organization to get caught up with monitoring and compliance; and the shock of events unforeseen and unplanned. Nonetheless, there are tremendous benefits to this process that outstrips the disadvantages and in some cases may be leveraged

to improve upon its limitations. Chief among the benefits are: the prospects for increasing the competitiveness of the sector; increased efficiency; the organization is forced to become "goals-oriented"; it provides a framework for accountability and transparency; its future orientation facilitates adjustments to reflect changing times and situations (including changes caused by external factors); it provides a framework for decision-making and therefore eliminating the need to approach decision-making from a "crisis-driven" perspective; and it can also boost the morale of employees because everyone has a common understanding of where the sector is going. A basic step by step process that could be considered is one identified in the literature (Pathfinder International, 2013); to start the process, this includes:

- Preparing a strategic planning start-up checklist;
- Reviewing and update the mission statement and NTP where necessary;
- Conducting environmental scans;
- Conducting a SWOT analysis (note the SWOT analysis that was carried out by the PIOJ);
- Reviewing existing plans and outline the vision for the transport sector;
- Identifying the strategic issues;
- Formulating goals, strategic objectives, and action or tactical plans; and
- Taking steps to undertake Implementation, dissemination, revision and evaluation of the NTS.

The process from vision to implementation and eventual evaluation and monitoring, must be driven by analysis which in turn must be informed by adequate data. Therefore, it is critical that the strategic planning process be structured in a manner which facilitates sourcing of the requisite data. The planning process that should be spear-headed by the Ministry should involve many stakeholders to ensure that the process is comprehensive. There are many strategic planning models that could be used; however it is imperative that one suitable to the context of Jamaica be identified and streamlined for channeling the process. More so than developing a NTS is ensuring that it is implemented. The strategic planning process is a time-consuming one and therefore is not expected to happen immediately. While the Ministry seeks to identify the best procedure towards initiating the strategic planning process, however, there areas that may require research and analysis to provide the kind of information that would be useful to enhancing the process but are not currently considered; some of these research prospects have been identified below.

8.2 Possible Areas for further Research to Enhance the Transport Planning Efforts

The research was focused on providing a framework for the development of a NTS for Jamaica through an assessment of the achievements and challenges of the U.S. in this respect (with particular focus on the implications of a NTS for financing the transport sector). It also highlighted some areas that may need to be further exploration by the MTWH (or the GoJ at another level). Among these areas that could build on the efforts of this research are:

a. **A travel demand model** should be looked at for informing the transportation planning process for the country. This model should reflect consideration of the different spatial (e.g. national, regional, local) and temporal (e.g. daily, hourly) variations that will characterize the process. This will require the development and implementation of relevant socio-economic and land use surveys to inform the process along with other means of obtaining accurate information on the activities (home, work and other), trip generation, trip distribution, and modal split ant trip assignment (the basic four step model). This will require that units of activities (such as the transportation analysis zones) be identified based on which the study and analysis might be carried out; in some jurisdictions such as the U.S. these zones coincides with the census tracts. This study should also reflect consideration for the integrating the transport and land use planning processes.

b. **An assessment of the impacts of the transport sector on economic growth**. This research should be focused on identifying the impacts that should inform the sector's priority status within the context of the wider government; it should also provide a justification for its position on the priority spectrum. In addition, it should examine the extent to which transport infrastructure and services development can be used to direct the growth of underdeveloped areas, and to redistribute economic growth spatially. This study should address the implications of the "transport investment- development" dichotomy and determine which should be addressed first.

c. **Explore wider options of financing the transport sector** especially in light of the current challenging financial times. This may include looking at whether developers should play a role in financing infrastructure through the application of fees for example. Taxes are also unpopular options that could be explored, this does not only mean introducing new taxes but looking to existing taxes that have not yet been extensively tapped for financing transport infrastructure and services (such as property taxes).

d. **Undertake a cradle to grave assessment of various aspects of the transport sector**. While policies and programs have generally looked at the "sustainability" of the sector, there have been no in-depth evaluation of the true impacts of the sector on the environment, and hence the long term measures that must be put in place to mitigate and avert the negative impacts. This research should also look at possible ways of internalizing the externalities of the sector, as well as assessing the extent to which environmental and social justice are reinforced through the sector.

8.3 Conclusion on the overall findings of the research

The research has provided a framework that facilitates an appreciation for the strategic planning process as it has been applied in other jurisdictions, and also how it may be applicable to Jamaica. It has highlighted that while the MTWH has operated without a NTS for many years, it is most desirable to have such a framework in place. The process must have the support of the decision-makers; this would be an indication of the commitment to realizing the vision of the sector. The environment for the successful development and implementation of the NTS must therefore be created.

"Strategic planning is worthless -- unless there is first a strategic vision."
John Naisbitt

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APPENDIX

Appendix 1: Structured Interviews Administered to Senior Officers within the MTWH

STRUCTURED INTERVIEW

"A NATIONAL TRANSPORT STRATEGY FOR JAMAICA: IMPLICATIONS FOR FINANCING THE TRANSPORT SECTOR"

Masters in City and Regional Planning (Transport Specialization)

Georgia Institute of Technology

INTERVIEWEE: Senior Officer; Ministry of Transport, Works and Housing; Jamaica

Introduction:

As a requirement for completing the Masters Program in City and Regional Planning at the Georgia Institute of Technology, an in-depth research must be undertaken on a planning matter, based on respective areas of specializations. This research, in fulfilling this requirement, is aimed at proposing a strategic framework for the transport sector, as well as assessing the implications of a strategic plan for the Government of Jamaica's attempts to finance the transport sector. This interview is a part of the methodology that was incorporated towards obtaining to enhance the analyses included in this research.

1. **a.** In your view, how important is a National Transport Strategy to improving the Ministry of Transport, Works and Housing's efficiency in successfully undertaking its mandates?

   _____
   _____
   _____

   b. If the National Transport Strategy is deemed as being important, how is it envisioned that its existence and enforcement will impact the culture of how the Ministry and its agencies currently operate?

   _____
   _____
   _____

2. Is there a legislative mandate for a Strategic Plan to be prepared at the Ministry of Transport, Works and Housing and /or at agency levels (i.e. outside of the stipulations in the National Transport Policy)?

_____
_____
_____

3. I am aware that there are continued and ongoing changes within the Ministry over a number of years under the Public Sector Modernization Program. Will the formulation of a National Transport Strategy enhance this process? (Expound)

_____
_____
_____

4. What would you say currently define the Ministry's present development program agenda?

_____
_____
_____

5. Has the Ministry ever embarked on preparing plans for implementing its policies for the different modes of transportation (i.e. on the basis of individual modes or from an integrated perspective)?

_____
_____
_____

6. **a.** A review of literature has shown that Unit Work Plans are important to the overall success of the strategic planning framework. What are the documents that form the overarching basis for the work plan development and implementation processes within the Ministry?

_____
_____
_____

b. How does the document mentioned in part (a) if at all, relate to the existing National Transport Policy?

_____
_____
_____
_____
_____

c. Are there any plans to review the current National Transport Policy in keeping with the policy development process, could you please expand?

_____
_____
_____

7. **a.** The effectiveness and success of the strategic planning process for the transport sector is largely dependent upon ongoing collection and use of relevant data. The data collection process can be time consuming and costly, however necessary. Does the Ministry have a structure in place to collect the requisite data for informing the planning process?[1]

   _____
   _____
   _____

   b. If there is a scarcity of data, how does the Ministry propose to address this?

   _____
   _____
   _____

8. Are you of the view that the preparation of a National Transport Strategy premised on the basis of a revised National Transport Policy, could have an impact on how the sector is currently funded and prospects for future funding? (Expound)

   _____
   _____
   _____

9. An important aspect of successfully developing and implementing a National Transport Strategy is ascertaining how it will be funded, are there fund earmarked for undertaking this activity?

   _____
   _____
   _____

10. Based on the structure and activities of the Ministry, with whom do you envision that the responsibility for preparing and implementing the National Transport Strategy should be?

    _____
    _____
    _____

[1] This data collection process may be the result of the Ministry's individual efforts or in collaboration with its entities or other sectors

11. I am aware that there are respective Boards that are formed as required by legislation. The mandates of each Board all pertains to the respective areas of the transport sector. The effectiveness of a transport sector is often pivoted on the extent to which there is integration among its parts. Have consideration ever been given to creating a "Transport Board"?[2]

    _____
    _____
    _____

12. Are there any foreseeable factors that in your view could stymie any efforts at streamlining the Ministry's planning process through the development and implementation of the National Transport Strategy?

    _____
    _____
    _____

13. Are there any matters that we have not previously discussed, that relates to this subject and that you are of the view would enhance my research and should therefore be explored?

    _____
    _____
    _____

Thank you very much for your time, your assistance and insightfulness is greatly appreciated.

[2] This Board would have stakeholders from all the different modes and areas of the transport sector as well as all the impacting factors. This Board could be the entity that marshals the implementation and regular updating of the National Transport Strategy.

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1. It would appear from my assessment of the planning, programming and monitoring that are currently being carried out by the Ministry, that there is a 'strategic planning process' that is being embraced (albeit in the absence of a National Transport Strategy). How do these procedures link to the National Transport Policy?

   _____
   _____
   _____

2. In the Ministry's efforts to embrace a strategic planning process a key activity was its development of a Digital Dashboard to enhance the monitoring activities within the Ministry. Could you please give a synopsis of what gave rise to Ministry's acknowledgement of the need for this innovation to be adopted?

   _____
   _____
   _____

What is the status of implementation of the Ministry of Transport, Works and Housing's Digital Dashboard to date? [3]

_____
_____
_____

3. To what extent has the Ministry's monitoring processes been streamlined and indicators been developed and implemented?

_____
_____
_____

4. What is the basis on which the indicators incorporated into the Dashboard were developed? [4]

_____
_____
_____

5. **a.** Is a "Scorecard" used along with the dashboard?

_____
_____
_____
_____

b. Has this process been tied to the development and implementation of Unit and individual annual Work Plans?

_____
_____
_____

6. To what extent does the agencies that come under the Ministry of Transport, Works and Housing prepare strategic plans? Is there a Ministry-stipulated requirement?

[3] Can I get a snapshot of the MTW Digital Dashboard?

[4] Was this the National Transport Policy, Corporate Plan, etc.?

_____
_____
_____

7. Is there any matter that we have not previously discussed, that relates to this subject, and that you are of the view would enhance my research and should therefore be explored?

_____
_____
_____

Thank you very much for your time, your assistance and insightfulness is greatly appreciated.

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1. **a.** What have been the main sources of funding for the transport sector over the last couple of years?[5]

   _____
   _____
   _____

   b. How sustainable and efficient have these funding strategies proven to be over the years?

   _____
   _____
   _____

2. **a.** Does the Government currently fund Capital and Operational expenditures within the transport sector?

   _____
   _____
   _____

[5] Obtain information to do a graphical illustration to facilitate the comparison and analysis that may be required.

b. What is the extent of the involvement in respect of each?

i. Capital Expenditure

_____
_____
_____

ii. Operational Expenditure

_____
_____
_____

3. How much of the national budget has the transport sector typically absorbed? [6]

_____
_____
_____

4. What are the current bases on which the budget is cast and resource allocation decisions made?

_____
_____
_____

5. Considering the reality of resource scarcity with which the Government of Jamaica has to grapple as numerous critical activities compete for the limited resources, is there a system of prioritization that is used to guide the budgeting process? If yes, what is its basis? If no, does the Ministry currently see the need for such a procedure to be put in place?

_____
_____
_____

6. What has been the approach of the Ministry as it relates to linking the National Transport Policy (and hence the policy priorities) to the budget?

[6] Examine the percentage trend over the years. Has this been justified, based on the government's priorities?

_____
_____
_____

7. **a**. A few years ago Jamaica introduced a motor vehicle fuel tax aimed at generating additional revenue for financing the activities of the transport sector. How successful has the gas tax mechanism been in bolstering the pool of funds that are available for enhancing the transport sector?

_____
_____
_____

b. Are there committed plans for the anticipated income from gas tax revenues?

_____
_____
_____

c. What is the projection like, in terms of the potential for the gas tax to significantly impact the revenue pool? On what basis are these projections being made?[7]

_____
_____
_____

8. Is there a Transportation Improvement Program (TIP) that guides the allocation of resources within the transport sector? If yes:

a. How often does the Ministry prepare a TIP

_____
_____
_____

b. On what basis have projects been included in the TIP?

_____
_____
_____

[7] The implementation of the NTP could impact the revenue from the gas tax, for example through the promotion of transportation for a health natural environment, advocating for increased use of mass transit etc.

9. Cost overruns have been long seen as a problem that affects the transport sector in many countries. It has resulted in a reduction in the amount of funds that are available to fund planned investments within the sector, as well as hampers the Government's capacity to obtain further funding. In light of this:

    a. What are the main factors that have caused cost overruns on transport projects?

    _____
    _____
    _____

    b. What steps if any, have been put in place to reduce and eventually obviate incidents of cost overruns?

    _____
    _____
    _____

    c. Might a National Transport Strategy aid in keeping projects on time and on budget, if yes, how so?

    _____
    _____
    _____

10. Are any subsidies provided to or by the Government to enhance the effectiveness and efficiency of the transport sector? If yes what are the sources of these subsidies and who are the beneficiaries?

    _____
    _____
    _____

11. What have the Ministry's budgeting allotments looked like over the past few budgeting periods?[8]

    _____
    _____
    _____

[8] (This is expected to give an indication of the government's priorities for the transport sector over the past years).

12. Is the Government of Jamaica currently looking at ways to enhance the self-financing capacity of the Transport Sector? If yes, what are some of the strategies being explored?

    _____
    _____
    _____

13. Globalization is a reality that continues to impact many sectors, and particularly the transport sector. In order for the country to attain development status by 2030 as is set out in the National Development Plan Vision 2030, there must be an efficient transport sector which is able to compete on a global level. There is consequently greater pressure in ensuring that there are high standard infrastructure, technology and processes in place.

    What are the most non-traditional means by which the Government is seeking to finance the transport sector in order to make Jamaica more competitive on a global scale as well as favorably positioning itself in the global arena?

    _____
    _____
    _____

14. Is there any matter that we have not previously discussed, that relates to this subject, and that you are of the view would enhance my research and should therefore be explored?

    _____
    _____
    _____

Thank you very much for your time, your assistance and insightfulness is greatly appreciated.

Appendix 2: Some Relevant Acts and Regulations

Air Transport	The Airport Authority Act
	The Airports (Economic Regulations (Act)
	The Airports Authority (Economic Regulations) Regulation
	The Civil Aviation Act
	The Civil Aviation (Amendment) Act & Regulations
Marine Transport	The Beach Control Act
	The Cargo Reference Act 1979
	The Carriage of Goods Act 1989
	The Customs Act 1941
	The Exclusive Economic Zone Act 1991
	The Fishing Industry Act 1975
	The Harbors Act 1894 and Regulations
	The Harbors Fees Act
	The Jamaica Export and Free Zones Act
	The Lights and Lighthouses Act 1900 (1961, 1974)
	The Marine Insurance Act
	The Maritime Areas Act 1996
	The Pilotage Act and Regulations
	The Quarantine Act
	The Shipping Act, 1998
	The shipping Fees Act 1979
	The Wharfage Act
	The Harbors Rule 1971
	The Shipping (Fees) Regulation
	The Shipping (Local Trade) Regulations 2003
	The Shipping (Registration of Ships) Regulations 2006
	The Tourist Board (Water Sports) Regulations 1985
	The International Convention on Civil Liability for Bunker Oil Damage
	The International Convention on Oil Pollution Preparedness and Responses Co-operation
	Caribbean Maritime Act 1993
Land Transport	The Jamaica Railway Corporation Act
	The Motor Vehicle (Third Party Risks Act)
	The Public Passenger Transport (KMTR) Act 1947
	The Public Passenger Transport (Rural Area) Act 1970
	The Road Traffic (Amendments) Act 2002
	The Road Traffic Act and Regulations 1983
	The Transport Authority Regulations 1988
	The Jamaica Railway Corporation By-Laws 1969
Works Related	The Main Roads Act
	The Road Maintenance Fund Act
	The Road Protection Act
	The Toll Roads Act
Other Acts	The Financial Administration and Audit Act
	Public Bodies Management and Accountability Act

***Source**: Extracted from National Transport Policy; MTW 2007*

Appendix 3: Ministries of Government in Jamaica

1. Office of the Prime Minister and Ministry of Defense, Development, Information and Sports
2. Ministry of Finance and Planning
3. Ministry of Foreign Affairs and Foreign Trade
4. Ministry of National Security
5. Ministry of Education
6. Ministry of Youth and Culture
7. Ministry of Water, Land, Environment and Climate Change
8. Ministry of Health
9. Ministry of Industry, Investment and Commerce
10. Ministry of Justice
11. Ministry of Labor and Social Security
12. Ministry of Local Government and Community Development
13. Ministry of Transport, Works and Housing
14. Ministry of Tourism and Entertainment
15. Ministry of Science, Technology, Energy and Mining
16. Ministry of Agriculture and Fisheries

Appendix 4: Agencies and Bodies Involved in the Monitoring and Evaluation Process

1. **Parliament**: The Vision 2030 Jamaica Annual Progress Report will be presented to the Parliament for deliberations and discussion.

2. The **Economic Development Committee (EDC)** is a committee of Cabinet chaired by the Prime Minister. The EDC will review progress and emerging policy implications on the implementation of Vision 2030 Jamaica and the relevant sector plans.

3. **The National Planning Council (NPC)** is a consultative and advisory body which brings together top decision-makers in the Government, private sector, labor and civil society. It is proposed that the NPC accommodates discussion on the Plan at least once every quarter as a national consultative forum on the implementation of Vision 2030 Jamaica.

4. The **Vision 2030 Jamaica Technical Monitoring Committee (TMC)**, or Steering Committee, is to be chaired by the Office of the Prime Minister and will provide oversight for the technical coordination and monitoring of the Plan and reporting on the progress of implementation.

5. The **Vision 2030 Jamaica Technical Secretariat** to be institutionalized within the PIOJ will play a leading role in coordinating implementation, analyzing social and economic data and information, consolidating sectoral information into comprehensive reports on Vision 2030 Jamaica's achievements and results, maintaining liaisons with sectoral focal points in MDAs, and supporting the establishment and operation of Thematic Working Groups.

6. **Ministries, Departments and Agencies (MDAs)** represent very important bodies within the implementation, monitoring and evaluation system. They are the Sectoral Focal Points that will provide data/information on a timely basis on the selected sector indicators and action plans, and be responsible for the timely preparation of sector reports that will feed into the Vision 2030 Jamaica Annual Progress Report. For the Transport Sector Plan, the main MDAs comprising the relevant Sectoral Focal Point will include the Ministry of Transport and Works, the National Works Agency, the Airports Authority of Jamaica, Jamaica Civil Aviation Authority, Port Authority of Jamaica and Maritime Authority of Jamaica.

7. **Thematic Working Groups are** consultative bodies aimed at providing multistakeholder participation in improving the coordination, planning, implementation and monitoring of programmes and projects relevant to the NDP and sector plans, including the Transport Sector Plan. TWGs will be chaired by Permanent Secretaries or senior Government officials and shall comprise technical representatives of MDAs, National Focal Points, the private sector, Civil Society Organizations and International Development Partners. TWGs will meet a minimum of twice annually.

(PIOJ, 2009)

Appendix 5: Summary of Strategic Outcomes of the Ministry's Entities

Jamaica Urban Transit Company Limited

The strategic outcomes of the JUTC are to:

- Provide 25,000 seats per day in the KMTR
- Reduce dead kilometres
- Market the services of the JUTC to the commuting public
- Provide quality customer service
- Improve cost and operational effectiveness

The Toll Authority

The strategic outcomes of the Toll Authority are:

- An appropriate legal and regulatory framework is provided with a view to ensuring a comprehensive legislative, regulatory and institutional framework for the transport sector as outlined in the Transport Sector Plan.
- The Authority is equipped to monitor and regulate the operation and maintenance of Jamaica's toll roads Objective (a) is a critical success factor for achieving this objective.
- The Minister and Ministry are kept up to date on toll road related matters.
- Compliance with the Toll Road Act Regulations and Concession Agreements and that the toll roads are maintained and operated in accordance with the highest international standards to ensure that they are sustainable road infrastructure that serves the economic and social needs of the country while satisfying the definition and criteria of an environmentally sustainable transport sector as required under the Transport Sector Plan.
- Creating and fostering an enabling environment for potential investors in toll roads.
- The acquisition of/access to scalable beneficial technology and support services.

Transport Authority

The strategic outcomes of the Transport Authority are to:

- Enforcement and implementation of mechanisms to prevent illegal operations and general misconduct in the transport sector
- Effective regulatory environment established
- Financial and operational viability of the organization
- A strengthened institution that responds in an effective, efficient and timely manner to existing and emerging challenges
- Development of the transportation sector in keeping with national priorities

National Road Operating and Constructing Company Limited

The strategic outcomes of NROCC are:

- Accelerated development through infrastructure
- Enhanced safety mechanisms for road users
- Environmental balance
- Effective customer service
- Economic development
- Organizational development and efficiency improvements

Road Maintenance Fund

The strategic outcomes of RMF are:

- Financing of the Jamaica Development Infrastructure Programme (JDIP)
- Funding of a Routine Maintenance Programme of work
- Loan obligations with the Export Import Bank of China and the PetroCaribe Development Fund honoured
- National Works Agency engaged for the provision of project management services on behalf of the Fund
- Main road conditions improved in keeping with local and international standards

Montego Bay Metro

- Provide reliable and efficient bus service on major routes in the MMR and its environs
- Schedule buses to provide contract service to schools
- Reduce down-time of buses
- Participate in rationalization initiatives – bus stops
- Establish terminal for MBM buses
- Ensure that facilities are at acceptable standards
- Provide adequate resources for the provision of an efficient bus service
- Improve facilities to ensure improved service delivery

National Works Agency

The strategic outcomes of the NWA are:

- Safety
- Reliability/Availability of the Road Networks
- Efficiency in project implementation
- Environmental protection
- Main road conditions improved in keeping with local and international standards

Airports Authority of Jamaica

The strategic outcomes of the AAJ are:

- Proper governance and adherence to statutory and regulatory requirements
- GOJs policy to privatize international airports and aerodromes facilitated
- Profitability of the AAJ improved through revenue growth and cost containment strategies
- Airports incorporate sustainable environmental programmes in their airport operations
- Airports' Capital Development Programmes monitored
- Effective management of Concession Agreements with NMIAL and MBJ to ensure contract compliance
- Strategic linkages with transportation partners forged to facilitate the creation of a multi-modal transportation logistics infrastructure
- New initiatives for air route development introduced

Aeronautical Telecommunications Limited

The strategic outcomes of AEROTEL are:

- First class engineering and telecommunications services provided for the Jamaica Civil Aviation Authority in the Jamaica Flight Information Region
- A safe Flight Information Region is provided
- New sources of income identified

Jamaica Civil Aviation Authority

The strategic outcomes of the JCAA are:

- Ensuring the safe and orderly conduct of all aviation activities in Jamaica and those conducted overseas by Jamaican Operators

- Providing efficient and user responsive Air Navigation Services to the national and international aviation community

- Cooperating with other agencies in the facilitation, provision and regulation of a reliable and safe Air Transport System.

- Providing a conducive environment for the development of its staff

Port Authority of Jamaica

The strategic outcomes of the PAJ are:
- Alternate methods of financing critical capital projects identified
- Long-term financial viability maintained
- Increased levels of infrastructure development
- Increased productivity at the Kingston Container Terminal (KCT)
- Maintain safety and security

Jamaica Free Zone Development Limited

The Jamaica International Free Zone Development Limited (JIFZDL) was incorporated in December 2005 as a private limited liability company with the shareholders being the Port Authority of Jamaica (PAJ) and Zim Integrated Shipping Services Limited (ZIM). The company, which is managed by the Kingston Free Zone Company Limited (KFZ), was created as a vehicle for the development of a major logistics centre in Jamaica. JIFZDL's strategic initiatives continue to support the Government of Jamaica's national strategy to develop Jamaica as a regional logistics hub with multimodal transport linkages.

The strategic outcomes of the JIFZDL are:

- Achievement and maintenance of a profitable organization
- Expanded operational capacity
- Provision of the environment for continued growth and development of the logistics industry in Jamaica
- Provision of the highest standard of services to its clients
- Provision of economic benefits to Jamaica including employment creation, foreign exchange earnings, opportunities for local business and improved terms of trade

Port Authority Management Services Limited

The strategic outcomes of PMSL are:

- Optimized profitability and improved financial strength
- Enable public ports to maintain compliance with the ISPS Code by strengthening security mechanisms
- Improved operating efficiency and productivity levels
- Environmentally sustainable operations maintained

Caribbean Maritime Institute

The strategic outcomes of the CMI are:

- Less economically dependent by 2015
- Region's center of excellence in Land/Sea/Air education and training
- Industry ready leaders produced in Land/Sea/Air industries

Maritime Authority of Jamaica

The strategic outcomes of the MAJ are:

- Jamaica Ship Registry (JSR) becomes a successful international vessel registry;
- Full compliance with international and local safety and security standards by vessel owners;
- Pollution prevention and protection of the marine environment from vessel source pollution;
- Comprehensive regime for compensation of marine pollution damages from vessel sources;
- Adequate resources to carry out its regulatory and developmental mandate effectively;
- Modern legislative framework for the operation of the ship registry and international shipping center;
- Jamaica developed into the premier international shipping center within the region.

Appendix 6: Jamaica's Transport Subsector SWOT Analysis

Land Transport

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
	Strengths	**Weakness**	**Opportunities**	**Threats**
EXTENT OF USE	Primary facilitator/ provider of facilities for the movement of people, goods and services within Jamaica	Insufficient opportunities for all modes of land transportation Relatively low fuel efficiency of motor vehicles Limited integrative planning for land transport Growing traffic congestion particularly in urban areas	Integration between modes of land transport – bus, rail, private cars Potential to encourage greater public transport use	Rising fuel prices Competition between modes of transport
DENSITY OF ROAD NETWORK	Extremely dense coverage and well defined paved road network	Inflexibility of road design/layout Inadequate road marking and signage	Regenerative effects of the creation of roads on communities Contribution of urban rejuvenation including in resort areas	Existence of squatter settlements close to roads Potential impact of natural hazards
RAIL	Well-defined railway network	Inadequate regulation of movements with respect to roads and railways Deterioration of rail network	Growth of key centers of production and habitation near to rail network	Existence of squatter settlements close to railways Ownership and affordability of rail infrastructure Competing transport modes
ECONOMIC	Successful introduction of toll road model	Inadequate analyses with respect to the cost/benefits of land transportation	High potential impact on economic growth and contribution to GDP Road/Rail infrastructure as a facilitator/ determinant of development	Social/Economic consequences of various alternatives Potential impact of natural hazards Limited provision of resources/financing for land transport infrastructure projects

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
				Costs associated with the delivery of land transport modes
REGULATION	Liberalized framework	Lack of electronic surveillance devices and enabling legislation	Existence of appropriate monitoring technology which can be adopted	Broader lack of social discipline which affects manner in which road transport is used and maintained Lack of adequate enforcement support for road use and safety

Air Transport

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
	Strengths	**Weakness**	**Opportunities**	**Threats**
STRATEGIC LOCATION	Jamaica is ideally located along strategic north-south shipping lanes and air routes with a major port facility and other potential port facilities on the south coast	Inadequate strategic route development plan to utilize Jamaica's location Inadequate data to conduct proper planning for air transport	The establishment of Jamaica as a major logistics hub for the hemisphere and a multimodal cargo sub-hub to Miami To develop strategic route development plan	Small islands are particularly vulnerable to climate change Location in region prone to natural hazards including hurricanes
REGULATION	Jamaica's CAA is rated as Category 1 by the US FAA and conforms to all international standards	Lack of integrated approach to planning Air traffic services are subject to frequent threats of industrial action No Security Regulated Agent		Jamaica not maintaining the category 1 rating by the US FAA High crime rate Terrorism
FACILITATION	Jamaica is a world brand tourist and music destination promoting air travel to and from the island Scheduled flights to international hubs	Some highly bureaucratic systems Poor quality service by some public service entities Lack of active involvement and commitment by some	Potential for increased use of very light jet Global growth and expansion in adventure and nature tourism Gradual liberalization of open air policy/open	Customs and Immigration Procedures not revised Maintenance of restricted open sky agreements Dominance of visitors

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
		industry leaders Complicated fee structure Tedious immigration and customs procedures Restricted open skies policy US passport requirements No regional carrier Declining domestic general aviation industry	skies Potential for cruise ship homeporting contributing to combined sea and air transport demand	from the US Possible downsizing of Air Jamaica affecting air transport capacity Regional crises to discourage tourism Mergers of US Legacy carriers High cost of regional travel
ECONOMIC	A strong financial sector with first world legislation	Jamaica suffers from low economies of scale in its aviation industry High cost of doing business	The introduction of new technologies in reducing the cost of providing air navigation and air traffic services Liberalization of the air transport sector for economic benefit New income generating landside non-aeronautical developments International aviation industry improving	Emissions Charges Escalating cost of doing business in Jamaica Incentives given to tourism sector compared with other sectors such as aviation
EDUCATION AND HUMAN RESOURCES	The Jamaica Defense Force provides a supply of highly qualified pilots, mechanics and other skills for the aviation industry Jamaica has the largest English speaking workforce in the region	Poor consultation culture Although there are a number of education and training institutions, curricula with regard to aviation are generally not present	To build consultative culture and integrated approach to development Existing educational institutions as potential partners to design education for the future of the sector workforce	Lack of training for future development for airport hub

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
FACILITIES	Jamaica has two ICAO Category D international airports Airport infrastructure being expanded Extensive road network linked to airports Growth in hotel room stock generating increased arrivals	Existing airports do not have the capacity to extend runways to support long stage lengths Peak hour congestion Insufficient air cargo facilities Limited domestic aerodrome infrastructure	New landside non-aeronautical developments Potential for responsive infrastructure for international air traffic growth and future aircraft	

Marine Transport

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
	Strengths	**Weakness**	**Opportunities**	**Threats**
CONTAINERS/ GENERALCARGO	Major transshipment hub with ongoing and planned expansion	Port developments mainly funded by public sector investment	Strong growth potential due to expansion of Panama Canal Growth in world trade	Competing regional Ports Limitations of facilitating bureaucracy
PASSENGERS	3 established cruise passenger ports Ongoing port expansion and development	Ocho Rios port inadequate Montego Bay and Port Antonio under capacity	Continuing growth of Caribbean cruising and tourism markets	Competing regional Ports Harassment and crime Insufficient attractions
YACHTING	Location and facilities of marinas	Distance from Eastern Caribbean yachting center	Opportunity to develop new nautical tourism center in north-west Caribbean including potential opening of Cuba as destination	Hurricanes and crime Lack of shore facilities
PETROLEUM	Local Refinery and international marketing Companies			Potential oil shortages and price increases
NATURAL GAS		No port facility	Potential new energy source as catalyst for expansion in port and industrial park facilities	Potential future shortages of natural gas supply

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
COAL	Use in cement plant	Only cement pier handles commodity	Coal fired energy plant for JPS hence greater imports of coal	Emission controls
BAUXITE/ ALUMINA	Strong demand for aluminum	Non-renewable resource High energy costs reduce competitiveness	Strong global demand for aluminum	Non-availability of LNG for JAMALCO Global economic downturn which may reduce the demand for bauxite and alumina
INDUSTRIAL MINERALS	Vast domestic reserves	Lack of export facilities	Huge demand in US with multi-million ton export potential	Competition from Mexico, Cuba
GYPSUM	Strong market for gypsum	Out dated facility		
CEMENT		Tariff on imported cement Unreliable supply Quality control	Continued growth in local construction and export markets Plant expansio	
FERTILIZER		Out dated facilities	Staple for farming sector Expansion of farming sector leading to more imports and demand for port facilities	Contraction of farming sector would reduce demand for fertilizer imports
GRAIN		Outdated facilities	New facilities could benefit from economies of scale Staple for food and animal feed with growth in grain imports Use in ethanol production	Shortages or higher grain prices
SUGAR		Low production	Major export commodity Cane replanting, production of ethanol feedstock, more exports	Potential impact of changes in EU market regime for sugar

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
BANANAS	Exclusive export facility	Declining production	Alternate uses for Boundbrook Wharf	Containerization of commodity Potential impact of changes in EU market regime for bananas
HUMAN RESOURCES	Caribbean Maritime Institute (CMI) as IMO Accredited Institute	Underutilization of CMI facilities	Potential for technology transfer from leading nations Demand for training other maritime personnel Demand for seafarers	Brain drain leading to skills shortage for maritime transport
ANCILLARY SERVICES	Bunkering, ship repair, legal, agency, surveying feeder service already in place	Lack of adequate ship finance, dry dock, ship management	Maritime cluster, employment creation	Relocation of shipping lines
SHIP REGISTRATION	Established register with attractive incentives	Limited global presence	Potential for foreign exchange earnings	Competing registries
SHORTSEA SHIPPING			Large volumes of cement, aggregates moved cross island which contributes to road damage Absence of rail road as competing cargo transport mode	Influence of trucker lobby
SHIP OWNERSHIP	Existence of ship registry	Lack of ship finance	Carriage of industrial minerals, LNG, bauxite	Competition from other jurisdictions
LEGAL AND INSTITUTIONAL FRAMEWORK	The Shipping Act and other Acts The maritime administrative institutions Jamaica's participation in international conventions	Fragmented and lengthy bureaucratic and legal process Conflict of interest between role of port regulator and operator	Existence of best practices in countries such as Singapore and New Zealand Emerging market for carbon credits	Constraints to private sector involvement
POLLUTION PREVENTION	Industry is highly regulated based on existing legislation	Lack of adequate legislation	Access to oil pollution fund Requirements for	Impact of pollution incidents Threat of ship-

DIMENSION	INTERNAL ANALYSIS		EXTERNAL ANALYSIS	
			reception facilities Potential designation as special area under MARPOL	generated waste
ENVIRONMENT		Slow approval process for environmental permits and licenses Prohibitive fees and charges		Invasive Species Spills and other accidents
SAFETY	Port State Control inspections	Shortage of surveyors	Reduction of maritime casualties	Marine casualties
SECURITY	ISPS Compliant	Absence of communications infrastructure		Potential impact of security incidents Illegal narcotics

Appendix 7: Operational Entities that comes under the U.S. DOT

Office of the Secretary

Leadership of the DOT is provided by the Secretary of Transportation, who is the principal adviser to the President in all matters relating to federal transportation programs. The Secretary is assisted by the Deputy Secretary in this role. The Office of the Secretary (OST) oversees the formulation of national transportation policy and promotes intermodal transportation. Other responsibilities range from negotiation and implementation of international transportation agreements, assuring the fitness of US airlines, enforcing airline consumer protection regulations, issuance of regulations to prevent alcohol and illegal drug misuse in transportation systems and preparing transportation legislation.

Federal Aviation Administration

The Federal Aviation Administration (FAA) oversees the safety of civil aviation. The safety mission of the FAA is first and foremost and includes the issuance and enforcement of regulations and standards related to the manufacture, operation, certification and maintenance of aircraft. The agency is responsible for the rating and certification of airmen and for certification of airports serving air carriers. It also regulates a program to protect the security of civil aviation, and enforces regulations under the Hazardous Materials Transportation Act for shipments by air.

The FAA, which operates a network of airport towers, air route traffic control centers, and flight service stations, develops air traffic rules, allocates the use of airspace, and provides for the security control of air traffic to meet national defense requirements. Other responsibilities include the construction or installation of visual and electronic aids to air navigation and promotion of aviation safety internationally. The FAA, which regulates and encourages the U.S. commercial space transportation industry, also licenses commercial space launch facilities and private sector launches.

Federal Highway Administration

The Federal Highway Administration (FHWA) coordinates highway transportation programs in cooperation with states and other partners to enhance the country's safety, economic vitality, quality of life, and the environment. Major program areas include the Federal-Aid Highway Program, which provides federal financial assistance to the States to construct and improve the National Highway System, urban and rural roads, and bridges. This program provides funds for general improvements and development of safe highways and roads.

The Federal Lands Highway Program provides access to and within national forests, national parks, Indian reservations and other public lands by preparing plans and contracts, supervising construction facilities, and conducting bridge inspections and surveys. The FHWA also manages a comprehensive research, development, and technology program.

Federal Motor Carrier Safety Administration

The Federal Motor Carrier Safety Administration was established within the Department of Transportation on January 1, 2000, pursuant to the Motor Carrier Safety Improvement Act of 1999 [Public Law No. 106-159, 113 Stat. 1748 (December 9, 1999)]. Formerly a part of the Federal Highway Administration, the Federal Motor Carrier Safety Administration's primary mission is to prevent commercial motor vehicle-related fatalities and injuries.

Administration activities contribute to:

- Ensuring safety in motor carrier operations through strong enforcement of safety regulations, targeting high-risk carriers and commercial motor vehicle drivers.

- Improving safety information systems and commercial motor vehicle technologies; strengthening commercial motor vehicle equipment and operating standards
- Increasing safety awareness.

To accomplish these activities, the Administration works with Federal, state, and local enforcement agencies, the motor carrier industry, labor safety interest groups, and others.

Federal Railroad Administration

The Federal Railroad Administration (FRA) promotes safe and environmentally sound rail transportation. With the responsibility of ensuring railroad safety throughout the nation, the FRA employs safety inspectors to monitor railroad compliance with federally mandated safety standards including track maintenance, inspection standards and operating practices.

The FRA conducts research and development tests to evaluate projects in support of its safety mission and to enhance the railroad system as a national transportation resource. Public education campaigns on highway-rail grade crossing safety and the danger of trespassing on rail property are also administered by FRA.

Federal Transit Administration

The Federal Transit Administration (FTA) assists in developing improved mass transportation systems for cities and communities nationwide. Through its grant programs, FTA helps plan, build, and operate transit systems with convenience, cost and accessibility in mind. While buses and rail vehicles are the most common type of public transportation, other kinds include commuter ferryboats, trolleys, inclined railways, subways, and people movers. In providing financial, technical and planning assistance, the agency provides leadership and resources for safe and technologically advanced local transit systems while assisting in the development of local and regional traffic reduction.

The FTA maintains the National Transit library (NTL), a repository of reports, documents, and data generated by professionals and others from around the country. The NTL is designed to facilitate document sharing among people interested in transit and transit related topics.

Maritime Administration

The Maritime Administration (MARAD) promotes development and maintenance of an adequate, well-balanced, United States merchant marine, sufficient to carry the Nation's domestic waterborne commerce and a substantial portion of its waterborne foreign commerce, and capable of serving as a naval and military auxiliary in time of war or national emergency. MARAD also seeks to ensure that the United States enjoys adequate shipbuilding and repair service, efficient ports, effective intermodal water and land transportation systems, and reserve shipping capacity in time of national emergency.

Pipeline and Hazardous Materials Safety Administration

The Pipeline and Hazardous Materials Safety Administration (PHMSA) oversees the safety of more than 800,000 daily shipments of hazardous materials in the United States and 64 percent of the nation's energy that is transported by pipelines. PHMSA is dedicated solely to safety by working toward the
elimination of transportation-related deaths and injuries in hazardous materials and pipeline transportation, and by promoting transportation solutions that enhance communities and protect the natural environment.

Research and Innovative Technology Administration

The Research & Innovative Technology Administration (RITA) is an agency whose mission is to identify and facilitate solutions to the challenges and opportunities facing America's transportation system. RITA's focus is to

promote transportation research that will foster the use of innovative technology. RITA includes the Volpe National Transportation Systems Center, an organization dedicated to enhancing the effectiveness, efficiency, and responsiveness of other Federal organizations with critical transportation-related functions and missions. With responsibility for research policy and technology sharing, the agency partners with national and international organizations and universities.

RITA also includes the Bureau of Transportation Statistics, the Transportation Safety Institute and the University Transportation Centers program.

Saint Lawrence Seaway Development Corporation

The Saint Lawrence Development Corporation (SLSDC) operates and maintains a safe, reliable and efficient waterway for commercial and noncommercial vessels between the Great Lakes and the Atlantic Ocean. The SLSDC, in tandem with the Saint Lawrence Seaway Authority of Canada, oversees operations safety, vessel inspections, traffic control, and navigation aids on the Great Lakes and the Saint Lawrence Seaway.

Important to the economic development of the Great Lakes region, SLSDC works to develop trade opportunities to benefit port communities, shippers and receivers and related industries in the area.

Surface Transportation Board

The Surface Transportation Board (STB) is an independent, bipartisan, adjudicatory body organizationally housed within the DOT. It is responsible for the economic regulation of interstate surface transportation, primarily railroads, within the United States. The STB's mission is to ensure that competitive, efficient, and safe transportation services are provided to meet the needs of shippers, receivers, and consumers. The Board is charged with promoting, where appropriate, substantive and procedural regulatory reform in the economic regulation of surface transportation, and with providing an efficient and effective forum for the resolution of disputes.

The Board continues to strive to develop, through rulemakings and case disposition, new and better ways to analyze unique and complex problems, to reach fully justified decisions more quickly, to reduce the costs associated with regulatory oversight, and to encourage private-sector negotiations and resolutions to problems where appropriate.

Appendix 8: DOT's Transportation Program Evaluation

Sponsor	Title	Description
Office of the Under Secretary for Policy	TIGER Discretionary Grant Program	Conduct longitudinal analyses that describe the extent to which projects actually achieve planned outcomes and benefits.
FRA	Railroad Research and Development Program	The Transportation Research Board will assess program management structure, allocation of resources among program areas, and project selection criteria.
FAA	Streamlined Environmental Impact Statement Process	An assessment of streamlining effectiveness and recommendations for improvement.
FAA	Runway Safety Program	Management study to evaluate management systems, processes and practices, communications and industry involvement with the goal of improving aviation safety.
FHWA	Strategic Highway Safety Plan (SHSP)	Review statutory, regulatory, and agency materials that define SHSP requirements, assess the consistency of program activities, determine the strengths and weaknesses of the SHSP program.
FMCSA	Safety 1st Culture—Pre-Employment Screening Program	Ensure FMCSA and its contractors execute the pre-employment screening program in compliance with contractual and statutory direction. Evaluation will implement any best practices discovered from comparable programs.
FMCSA	Safety 1st Culture—New Entrant Safety Assurance Program	Evaluate the effectiveness of the program in light of sweeping regulatory changes initiated in 2010 designed to "raise the bar to enter the industry."
FMCSA	Safety 1st Culture—Motor Coach Operations	Assess the safety performance of the motor coach industry, the effectiveness of current safety regulations applicable to motor coach operations, and national/international industry safety best practices from comparable programs.

Sponsor	Title	Description
FMCSA	Exponential Safety Power—Motor Carrier Safety Assistance Program	Evaluate the impact of FMCSA's largest grant program at improving commercial motor vehicle safety. Assess State partners' performance measures and identify best practices to improve safety outcomes.
NHTSA	Impaired Driving Enforcement	Test the effectiveness of traditional (i.e., enforcement waves) and alternative (i.e., integrated enforcement) approaches to impaired driving enforcement. Assess whether the interventions have a differential effect on two populations of drivers: those drivers who drink (general deterrence) and those identified as most at risk of driving at higher BACs (0.08 and above).
NHTSA	Click It or Ticket	Evaluate the extent to which NHTSA's high visibility traffic safety enforcement campaigns required under SAFETEA–LU increase the use of safety belts.
NHTSA	Tire Pressure Monitoring Systems	Evaluate the effectiveness of tire pressure monitoring systems.
NHTSA	New Mexico Comprehensive Impaired Driving Program	Evaluate the effects of a Governor's Task Force on generating a comprehensive impaired-driving program.
NHTSA	High Visibility Enforcement	Evaluate the effectiveness of combined alcohol and seat belt messaging compared to single issue messages using NHTSA's high visibility enforcement model. Evaluate awareness of the new messages and self reported behaviors among males ages 18–34, a high risk target group for both issues.
PHMSA	Risk Models	Evaluate the effectiveness of risk models for resource allocation.
PHMSA	Enforcement Program	Evaluate the effects of the enforcement program and make recommendations for possible changes in program design or focus.
PHMSA	Performance-based pipeline safety programs	Evaluate the effectiveness of PHMSA's oversight of performance-based safety programs. This audit will address the (1) need to expand the program's use of meaningful metrics; (2) adequacy of inspection protocols for ensuring the completeness and accuracy of pipeline operators' integrity management program data; (3) adequacy of inspection protocols for ensuring the incorporation of an operator's leak, failure, and incident data in evaluations of the operator's risk model; and (4) benefits of establishing performance goals for pipeline operators.
RITA	ITS Portfolio Level Evaluation	Articulate the overall effectiveness of the ITS program through composite evaluation of connected vehicle research related to the safety, mobility, and environmental objectives described in the *ITS Strategic Research Plan*.
RITA	UTC Grant Recipients Review and Evaluation	Review and evaluate the programs carried out by grant recipients to assure programs are meeting the education, research and technology transfer goals of the University Transportation Centers (UTC) Program.

Appendix 9: U.S. Economic Development Administration- Investment Priorities

To facilitate evaluation, EDA has established the following investment priorities:

1. **Collaborative Regional Innovation**
   Initiatives that support the development and growth of innovation clusters based on existing regional competitive strengths. Initiatives must engage stakeholders; facilitate collaboration among urban, suburban, and rural (including tribal) areas; provide stability for economic development through long-term intergovernmental and public/private collaboration; and support the growth of existing and emerging industries.

2. **Public/Private Partnerships**
   Investments that use both public- and private-sector resources and leverage complementary investments by other government/public entities and/or nonprofits.

3. **National Strategic Priorities**
   Initiatives that encourage job growth and business expansion related to advanced manufacturing; information technology (e.g., broadband, smart grid) infrastructure; communities severely impacted by automotive industry restructuring; urban waters; natural disaster mitigation and resiliency; access to capital for small, medium-sized, and ethnically diverse enterprises; and innovations in science and health care.

4. **Global Competitiveness**
   Initiatives that support high-growth businesses and innovation-based entrepreneurs to expand and compete in global markets, especially investments that expand U.S. exports, encourage foreign direct investment, and promote the repatriation of jobs back to the U.S.

5. **Environmentally-Sustainable Development**
   Investments that promote job creation and economic prosperity through projects that enhance environmental quality and develop and implement green products, processes, places, and buildings as part of the green economy. This includes support for energy-efficient green technologies.

6. **Economically Distressed and Underserved Communities**
   Investments that strengthen diverse communities that have suffered disproportionate economic job losses and/or are rebuilding to become more competitive in the global economy.